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COMMUNICATIONS.

PROOF THAT HUMAN MILK CONTAINS ONLY ABOUT ONE PER CENT. OF CASEIN; WITH REMARKS UPON INFANT FEEDING.

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(*Continued from page* 197.)

There are objections to such a belief; it has been already shown that human milk contains only one-third the amount of casein that exists in cows' milk; and there is a further important difference, which Biedert also appreciates, that human milk is always alkaline, while, on the contrary, cows' milk is acid. A coagulum, therefore, produced in a solution which is relatively so concentrated as is the case in cows' milk, and further in a fluid which is acid in reaction, is a very much denser and larger one than can be had from the relatively weak solution in human milk; and it is quite possible, therefore, that the difference may be owing to the different degrees of concentration, and the difference of the fluid media in which the casein is held; it cannot, therefore, yet be conceded that Biedert has absolutely demonstrated that the two caseins are chemically and physically different, although he has brought many strong arguments to bear. It is impossible to decide with certainty about casein in all its relations, while as yet it is not even known whether it is a simple or compound substance. Its solubility or insolubility after it has once been precipitated depends in great part upon how the original coagulation was effected, and whether or not it was thoroughly dried. If casein is once thoroughly dried for a good many hours at 100° C., it becomes absolutely insoluble in water, and will not dissolve even in a strong solution of caustic soda. Lehman (Physiological Chemistry, Cavendish Society Translation, vol. i, p. 378) says: "I believe that the jelly-like coagula of women's milk are more dependent on the alkaline state of the fluid than on any peculiarity in the casein; at all events, I have found that women's milk, when acid, yields a much thicker coagulum than when alkaline, and cows' milk, when alkaline, a much looser coagulum than when acid—facts of the highest interest and value in relation to dietetics."

Whatever may finally be decided about casein—whether those of cows' and human milk are as different as Biedert believes he has proved, or whether they are nearly alike, the difference being merely that the quantities are not the same and the containing fluid media different—what most concerns the subject in hand is the relatively small quantity which exists in human milk; for it shows conclusively that in a food for infants, the amount of casein in cows' milk must by some means be reduced to equal the amount in human milk. The correct conclusion of Biedert, that not more than 1 per cent. of cow casein should be present in a food for infants, is the more surprising as he arrives at the opinion from a totally different reason from the true one, that human milk contains only 1 per cent. (See table, page 226.)

Although Biedert's conclusions are very instructive, as he arrives at them from clinical experience; and surprisingly correct in many respects, he goes astray in assuming an incorrect

	Human. (Mean composition from milk of 43 women.)	Artificial Food. Cream, 10 cc.; milk, 5 cc.; lime water, 10 cc.; water 15 cc.; sugar, 2.2 gms. (Cream contained 12.470 per cent. of fat.)	Artificial Food: Cream, 2 tablespoonfuls; milk, 1 do.; lime-water, 2 do.; sugar-water, 3 do. (Cream contained 17.129 per cent. fat. Each tablespoonful was 20 cc. Sugar-water was 17¾ drachms to pint.)	Cows' Milk.	Cows' Milk.	Eagle Brand Condensed Milk.	Condensed, 1 teaspoonful (10.233 grammes) to 6 tablespoonfuls (90 cc.) of water.	Cream	Cream.	Creams.	Amount of Fat in each.
										No. 1	19.020
										" 2	17.507
										" 3	13.362
										" 4	12.470
										" 5	17.129
										" 6	16.024
										" 7	13.825
										" 8	14.950
										" 9	18.082
										" 10	16.502
										" 11	12.159
										" 12	15.611
										" 13	19.071
										" 14	11.782
										" 15	18.519
										" 16	21.465
										" 17	21.290
Water . .	87.163	88.357	87.639	88.549	87.012	27.942	92.673	79.122	79.901		
Fat . . .	4.283	3.506	4.765	3.310	4.209	10.335	1.095	13.362	12.470		
Casein. . .	1.046	1.214	1.115	2.792	3.252	9.522	.868	2.919	2.846		
Sugar . .	7.407	6.669	6.264	4.898	5.000	50.861	5.206	4.140	4.308		
Ash . . .	.101	.254	.217	.451	.527	1.340	.158	.457	.475		
Total .	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	Average from the 17	16.396
Error . .		.009 per cent. loss.	.029 per cent. in excess.	.029 per cent. in excess.	.058 per cent loss.	.476 per cent loss.	.009 per cent. in excess.	.109 per cent loss.	.039 per cent. in excess.		

The human milk average is the result of ten analyses made. Eight separate analyses were made of the milk of different women; on another occasion, equal quantities of milk were taken from twenty-seven (27) women, and a portion of this analyzed; on a third, equal quantities of milk were taken from eight (8) colored women, and this subjected to analysis.

standard of the average composition of cream. The estimate of Hoppe, which he assumes to be correct, places the amount of casein too high; for, as may be seen by a reference to my table, cows' milk and cream do not contain more casein than sugar. The usual estimates rate the casein too high, at the expense of the sugar. This being the case, and Biedert reckoning the composition of his cream mixture from this incorrect standard, and not from any analysis either of the cream or the mixture itself, as should have been done, places his fat amount too low, as only a very poor cream is so weak in fat as his standard rates it. A mixture made as he directs is far weaker in sugar than human milk, and therefore, although, perhaps, proper for temporary use in cases of indigestion, cannot be accepted as a standard of what an infant food should be; and it entirely fails to accomplish what he says should be done—make up to the infant by an excess of carbo-hydrates the lack of albuminates which exists in the food—for it only contains about half as much sugar as exists in human milk.

All these facts show that the tendency has been constantly toward the truth, and that physicians have been learning empirically for what reasons cows' milk has failed as an infant food, and how the difficulties which its use entailed were to be overcome. The use of cream has been advised; cream and whey; diluted milk; diluted milk with milk-sugar; cream, milk, lime-water and arrowroot-water; and finally comes Biedert's cream mixture, and he arrives more nearly at the true solution of the difficulty than any of the others, but still falls wide of the mark, from want of a precise knowledge of the composition of human milk, and of cows' milk and cream.

Investigators have thus, year by year, and step by step, been approaching the desired goal, and it needed but a touch for light to be let in upon the whole subject. Many hours and much careful and patient labor have been expended in investigations in this field, and no single worker could have done his part without having the results of the labors of his predecessors before him, to guide him a long way in the field, and give him easily the knowledge which would enable him, after much toil and trouble, to advance one little step more towards what was previously unknown. Thus, no individual investigator, no matter how important the advance in knowledge he may have made, should assume too large a share of credit; for it can be but a very small part of the great whole, and would be valueless but for the rest, into which it fits, and completes that which would otherwise be useless.

The necessary data being now at hand, it is comparatively easy to construct a food which shall, at least, be more nearly what is needed than any previous one. In making such a food, there are two matters to be considered: the proximate constituents must be in the same relative proportions

as they are found in human milk, and they must be in a medium which shall be, as human milk is, alkaline. This latter end is easily accomplished by the use of a due amount of lime-water, and is justified by the fact that it is a matter of experience, almost universally acknowledged as true, that it is a most useful adjunct, rendering cows' milk more easy of digestion by the human stomach. The quantity of lime-water to be used should be one-fourth of the total by measure. This may seem to many persons an excessive quantity; but when it is understood that if made as ordinarily directed, by agitating water with lime and then filtering, it contains only two decigrammes of lime in each litre, it becomes plain that the use of lime-water means the administration of a great deal of water and very little solid matter. The above estimate was arrived at by direct experiment; 10 cc. of freshly made, filtered lime-water, being evaporated, was found to yield two milligrammes of lime. This is a very large estimate of the amount of lime soluble in water, as may be seen by reference to the United States Dispensatory, or the National Dispensatory, both giving it as much less. That the use of lime-water (alkali) in an infant food makes a difference in its behavior with some reagents is shown by the following experiments. A food was made in the proportions which will presently be given, and 10 cc. of it agitated with ether and alcohol, as directed in my previous paper read before the Society, for the extraction of the fat; it was found that the coagulation took place in the form of a fine network, which remained permanently distributed through the lower stratum of the liquid, no sediment forming at the bottom. When an exactly similar mixture was made, except that the lime-water was replaced with water, leaving the fluid acid, and this agitated with ether and alcohol, thick, heavy curds formed, which at once sank to the bottom. Again, when two mixtures —one with and the other without lime-water— were treated with ten drops of acetic acid, the one without lime-water showed much larger, heavier coagula than that which contained lime-water. These experiments show with certainty that the addition of lime-water does alter the coagulability of the casein when experimented with, whatever may take place in the stomach; and I have already quoted Lehman's opinion that the acidity or alkalinity of milk makes a difference in the formation of the coagulum. Whatever may be the value of these artificial experiments, the great reason for the use of lime-water is that the experience of man has found it good, and that is sufficient reason for its use in the present state of knowledge. It is quite possible that in the future something better may be found—phosphate of lime perhaps, for it is the salt which exists in milk in larger quantity than any other; but further and exhaustive study of the inorganic constituents of both human and cows' milk will be required to place this matter upon an exact scientific basis. It is very desirable that further study of the salts of milk should be prosecuted, and it is much to be hoped that in the near future exhaustive analyses will be made. The amount of inorganic matter in cows' milk is so much greater than that in human milk that, as there is at present no means of removing it without altering or destroying the other component parts, no infant food can be made exactly like human milk in respect to the amount of salts contained.

So far as bringing the other proximate constituents to like proportions with those in human milk, the first step must be to so dilute with water as to get the desired quantity of casein; the fat and sugar can be increased by the use of the necessary quantities of cream and commercial milk-sugar. Taking the averages of cream and good city milk as already given (see table), it will be found by calculation that if there be mixed together 10 cc. of cream, 5 cc. of milk, 10 cc. of lime-water, and 15 cc. of water, with 2.2 grammes of milk-sugar, the desired mixture is had. That this is the case should not be trusted to mere calculation, but an analysis of the mixture should be made, both to verify the calculation and to observe how the mixture behaves when subjected to the analytic processes, whether it in its reactions more closely resembles cows' milk, with which it is made, or human milk. The table shows the results obtained by such analyses.

The easiest way to prepare and use the food is as follows: There must be obtained from a reliable druggist packages of pure milk-sugar containing seventeen and three-quarters drachms each. The contents of one package is to be dissolved in a pint of hot water, and it is best to have a bottle which will contain just one pint, as there is then no need for further measuring. The contents of one of the sugar packages is put into the bottle, and when filled with hot water the sugar soon dissolves, and it is ready for use. The dry sugar keeps indefinitely, but after it is once dissolved it sours if kept more than a day or two in warm weather; it is understood, therefore, that the sugar-water must be kept in a cool place, and if it should at any time become sour, as is easily discovered if it is smelled and tasted, it should be

thrown out, and after the bottle has been carefully washed with boiling water, the contents of a fresh package dissolved. A milkman must be found who will serve every day fresh, good milk and cream. By good milk is meant ordinary milk, such as is easily procured in most cities, and not rich Jersey milk; and in the same way the cream should be such as is ordinarily used in tea and coffee, and not the very rich cream of fancy cattle. The reason that ordinary milk and cream are recommended, is because they are within the reach of almost every one, and not because they are any better than the rich milk of high-bred stock. If Jersey milk was to be used, it would be necessary to analyze specimens, and then make the necessary calculations as to how to dilute it to obtain the desired relative proportions of the proximate principles. When the child is to be fed, the nurse should mix together two tablespoonfuls of cream, one of milk, two of lime-water, and three of the sugar-water, and then as soon as the mixture has been warmed it may be poured into the bottle, and the food is ready for use. If the infant is healthy this quantity will not satisfy it after the first few weeks, and then double the quantity must be prepared for each feeding. Twice as many tablespoonfuls of each of the ingredients must be mixed together, making sixteen tablespoonfuls (about half a pint) in all.

This food should not be given any stronger until the child is eight or nine months old at least, but if the infant is a healthy one, it may take as much of it as it wants, but always of the same strength. A robust infant will often take three pints, or even more, in each twenty-four hours. It is an easy matter for any one to learn how to make the lime-water; and it is advisable to have it made at home, for a great deal is used, and if it is made at home much trouble and expense are saved.

With regard to the propriety of increasing, from week to week, the strength of any artificial food given to infants, there has been some question. Most authorities have advised that the foods should be increased in concentration until finally the infant is given pure cows' milk. The propriety of this procedure, during the earlier months of life at any rate, is very doubtful. Although there is some reason to believe that the quantity of solid ingredients in human milk increases from month to month as lactation goes on, such an opinion should be accepted only with great caution, for it seems likely that if there is any increase in the concentration of the milk after the colostrum has once disappeared, and the nursing process has settled down into its even course, the increase is so slight that it may be disregarded. Analyses show that the milk of a woman whose child is two months old does not differ materially from that of one whose child is twelve or fifteen months old. If, then, nature has made no difference, which our means of analysis will detect, between the milk of a woman who has been nursing two months, and one who has nursed twelve, an artificial food which has been found to suit an infant of two months, should be made more concentrated only very gradually, and with careful observation of the effect upon the health of the infant. It is best, therefore, if the infant thrives and grows as it should, not to make any change in the food until after six to nine months of age have been attained.

With regard to the use of condensed milk as a food for young infants, I can only repeat what I said in my former paper, that I cannot believe that any article which has been canned, and kept for weeks or months, or perhaps still longer, can be so good as the same thing when fresh. My table of analyses shows the composition of the dilution of condensed milk commonly used in this city, and it shows that the proportion of fat is much too small, and for this reason, partly at least, it fails as a food. Its success is due to the fact that it contains nearly the same proportions of casein and sugar as exist in human milk. Dr. Ellwood Wilson is in the habit of directing that after the first few weeks a small proportion of fresh cream be added to the condensed milk, and this would render it still more nearly what is needed; this practice, which cannot be too much commended, if condensed milk is used, is not, however, at all a common one. Withal, I am unable to believe that condensed can be as good as fresh milk, if properly used. There are many other points of great interest, connected with this subject, which I should have liked to bring to your attention, but my paper has been already much too long.

CHRONIC NASAL CATARRH IN CHILDREN.*

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In many instances the clinical history of a case of chronic nasal catarrh in the adult embraces groups of symptoms which belong to the period of childhood. Comparisons of numbers of such histories force the observer to the conclusion that the

*Read before the College of Physicians of Philadelphia.

juvenile phase of the disease includes various conditions of the nasal chambers and of the pharynx. A lady, aged thirty, reporting for the treatment of a catarrh which had persisted from the seventh year, recalled the distress at that time experienced from frequent passage of mucus from the naso-pharynx to the oro-pharynx. A young man, aged twenty, who suffered from obstruction of the nasal chambers, and whose tonsils were normal at the time of examination, remembered the fact that these bodies were of large size when he was quite young. A third patient, aged thirty-five, suffering from copious muco-purulent discharge from the nose, complicated with pharyngitis, was confident that the habit of hacking had annoyed him as early as his ninth year to as great a degree as at the date of reporting for relief. While it must be conceded that in recording the clinical history of an adult, allowance must be made for lapses of memory and for the probable co-existence of exanthematous and of diphtheritic sore-throats, it is certain that some of the little patients who come under care exhibit symptoms which are apt to persist in some modified form in adult life.

In the light of such evidence it becomes a matter of interest to ascertain what peculiarities, if any, are to be found, which characterize chronic nasal catarrh in children.

Accepting as an axiom that this disease cannot be appropriately studied without a correct understanding of the structures of the nasal chambers, it must follow that the differences between the adult and other juvenile phases of the disease may be expressed in some degree by the differences between the peculiarities of the chambers themselves at the two periods.

In the child the vestibule is small, the floor is raised, the inferior meatus is shallow, the mucous membrane is of a delicate red color, and the eminences corresponding to the anterior ends of the inferior turbinated bones are rounded, and relatively of greater length than in the adult.

In part owing to the difficulties, and in part to inherent distinctions, the juvenile aspect of the disease is marked by a number of negative features. Thus, the membranes are never infiltrated with the products of inflammation, or corrugated, or ulcerated. The lower border of the inferior turbinated bone is never concealed within a deep inferior meatus. The septum is never, or almost never, deflected, unless a history of injury explains such deflection. Disease is never located above the respiratory tract. Atrophic catarrh is unknown.

Symptomatology and Diagnosis.—Congestion and acute inflammation of the nasal mucous membrane is common in childhood. The disharge in the beginning of the attack is almost always mucoid. The serous stage so commonly present after profound impression in adults, is not recognizable, and the transition is usually abrupt from a discharge of mucus to one of muco-pus. If air passes freely through the chambers the discharge is apt to dry and to form "crusts" or "scabs." These collect for the most part in the vestibule, though they may form at any portion of the respiratory tract. The discharge will often remain muco-purulent throughout the entire treatment, so that instead of expecting a return of the mucoid stage the practitioner should look forward to a gradual cessation of the amount of the discharge. The muco-pus in favorable cases becomes thicker as the case improves, and toward the close is often of the consistence of curd.

The child either "sniffles" in order to draw into the nose the discharge which, from the shallowness of the vestibule, inclines to flow outward from the nostrils, or it exhales or "hawks" if it inclines to fall into the pharynx. By careful observation of these acts, it can be ascertained that the place at which the discharge is most annoying (all things remaining the same), is also the place at which the greatest amount of obstruction exists.

Should the tonsils be very large and establish mouth-breathing, care should be taken not to confound the tumid state of the membranes of the nasal chamber with the evidences of local disease. Although the two conditions of nasal catarrh and enlargement of the tonsils often exist together, they need not.

When tumid tonsils are present, the probabilities are in favor of the adenoid growths at the roof of the pharynx being in the same condition. The naso-pharynx in such patients is occupied with tenacious mucoid discharge. The nasal chambers and the naso-pharynx, considered as parts of a single chamber, are shut off from communication with the oro-pharynx and the normal downward flow of mucus prevented. The mucus can be at times brought away through the nose by the handkerchief, and the impression may be erroneously received that the discharge, instead of being pharyngeal and mechanically retained, is catarrhal, and that it originates in the nose.

It need be scarcely necessary to say that the presence of mucus in a naso-pharynx which is thus narrowed, renders the danger to aural complication decided; and, while the condition is one not ad-

mitting of classification with cases of true nasal catarrh, the diseases of the nose and ear are inextricably associated.

The general health is rarely good, and symptoms which relate to mal-nutrition are so pronounced that they have received careful attention at the hands of the writers on the diseases of children. This subject is elaborated in the succeeding paragraphs.

Etiology.—Chronic catarrhal states in childhood are invariably associated with other effects of mal-nutrition. While this is not a novel statement, it is at least one which has been imperfectly formulated. Such effects should not be dismissed as being simply those of scrofula and of rickets, but should be exactly referred, as far as it is possible so to do, to the laws of development. Many conditions are present in patients who suffer from catarrh, which may be called errors in development. It is true, these errors are not of the kind denominated "variation," or "anomaly," but are pathological, and may be regarded as the results of precocity or retardation occurring in rapidly-growing tissue. They are conspicuous in bone-tissues, tooth-tissues, skin-tissues, lymphatic tissues, and in nerve-tissues.

From the earliest period in development to its completion at the twenty-first year, disease will modify structural processes much more readily and profoundly than at any subsequent period. The tissues may be said to be more plastic during the formative period, and to retain the impress of morbid action a longer time, than in the adult, and to carry into the future the results of this impress in altered relation or proportion of the formed elements. It is not intended in this place to show that chronic nasal catarrh is in any respect peculiar in this regard, but to invite attention to the operation of such forces which appear to have escaped detection.

The period of childhood is marked by changes as great in the proportions of the parts of the head and face as in any other of the body. The growth of the brain and the development of the permanent teeth are among the more striking of these. Clinical writers lay great stress upon the influence exerted on the economy, by the errors of the cerebral and dental growths. Are the influences they exert in the etiology or in the maintenance of nasal catarrh to be ignored?

The condition of the development of the brain in connection with those of the nasal chambers, while one of great interest, presents difficulties for the investigator, since the examination of large numbers of examples would be required before conclusions worthy of credence could be reached. Ophthalmologists have indeed noted that accelerated rates of development of the brain exist with a disposition to myopia. If such be the case, it is rational to conclude that the shapes of the nasal chambers will be in correlation with the states of the olfactory nerves, and thus the influence which exists between the brain and the eye, will be found also to exist between the brain and the nose. The extent to which chronic nasal catarrh may be found among myopes cannot be formulated.

There is no doubt that the patients are as a rule in an unnatural mental condition. The mind is either precocious or dull; the temper is irritable, and the disposition intractable; digestion is delicate, and reflex disturbances arising therefrom are of frequent occurrence. The patients belong to the class of subjects that develop morbid appetites, and, in girls, yield the predisposing causes which create so much disturbance at the approach of puberty. Chorea is occasionally noticed as a complication. In one example, a child of precocious intelligence, of delicate constitution, and who had nearly perished during an attack of acute pleurisy, the habit of exhaling air from the nostril was acquired after all symptoms of catarrh had ceased.

From the fact that with chronic nasal catarrh, errors of development of the teeth and rates of growth and nutrition of the nails are often associated, it is convenient to examine the relations between the nails, the teeth, and other structures. By way of introduction to this topic, it can be said that in pathology the connections between the hair, the nails, and the teeth are numerous.* Abnor-

*From the fact that the writer's biological and clinical studies have been pursued conjointly, he trusts that it may be thought admissible to introduce at this place some reflections concerning the nails and the teeth. These structures are of co-relative value in mammals generally. Blunt, flat teeth are always associated with hoofed digits, and sharp, conical teeth with clawed digits. Adopting the methods of the evolutionists, it may be assumed that the same forces which have been operative in changing the forms of teeth are also operative in changing the forms of the hoofs and claws. This co-relation is not found in the earliest of the mammalia. In the process of evolution of the quadrupeds as they exist about us from the few generalized types known to have flourished in the past, it can be inferred that the impress upon the nutritive processes which would effect the forms of the teeth would also impress the entire tegumental series of the organism; not only the teeth and nails would be in common affected by common causes, but the hair as well. Confining these remarks, however, to the nails and teeth, it is probable that the changes of food-supply, necessitating corresponding changes in habit, would most probably effect the claws and hoofs sooner than the teeth, since the

mal development of the teeth occurs in congenital hypertrichosis. Hair and teeth are commonly found in dermoid cysts. In man and in ruminants, hairy warts are found upon the cornea. In congenital syphilis, the cornea, the teeth, and the nails are all liable to peculiar inflammatory invasions. Is it not more than a surmise that since all these structures—the hair, nails, enamel-organs, and cornea—arise from the *epiblast*, and are strictly tegumental in nature, that they may be found affected together? Be this as it may, the nails and teeth are certainly to be considered together in studying chronic nasal catarrh in children, the nails at all times, and the teeth during the formative period of the enamel-organs.*

I have recently examined 96 children, with the object in view of determining to what degree a connection could be traced between the teeth and the nails in individuals, many of whom, if not all, were known to have been subjected to neglect and to the various inherited effects which could reasonably be accepted as tending to retard development.

Of the entire 96, 15 children had white spots on the finger-nails in abundance; 5 of these had decided defective dental development—that is to say, excessively chalky enamel—distorted and disfigured crowns, etc.; 3 had moderately chalky crowns, but no distortion; 7 had no appreciable defect.

No defective teeth were found in the remaining 81 children, so that the existence of dental defect exactly correlated with the spotted finger-nails. Of the 15 children thus selected, a little less than half the entire number had spotted nails but no dental defect. No attempt was made to ascertain any defect of rate of eruption, for the data obtained from the inmates of an asylum for destitute children would be unreliable. It is quite likely that the numbers of defects of teeth would be increased rather than diminished by more careful examinations made by dentists or other persons accustomed to detect minute abnormalities. Concerning the defective teeth and nails, it is conceded that they may have arisen from acute illness, as in the exanthemata, or from gingival inflammation, as in congenital syphilis. The "measles-tooth" was found but in a single individual, whose case was not enumerated. For the rest, it is quite possible some of the appearances may have been due to syphilis, though the pegged tooth was found in a single instance only. No account was taken of the occurrence of catarrh in the inmates, for although it is probable the condition existed, it was not reported as present by the attendants. The disease is rarely recognized among the children of the poor, where the symptoms are not likely to receive attention.

From a careful study of nine patients from the writer's practice, it was found that five exhibited white spots on the nails of the hand, and defects in the form and irregularity of rates of eruption of the teeth. In a young lady, aged fifteen, who came under care for this phase of catarrh, the superior lateral incisors had never been erupted, while the left deciduous superior canine tooth had remained in the arch. In a second case of a girl fifteen years of age, who had been much neglected, the depression remaining upon the vertex (answering to tho anterior fontanelle), was conspicuous, the teeth were irregular, the vault of the hard palate high and narrow, the disposition shrinking and irritable, and the mental faculties dull. In such patients, the epiphyses of the bones will be seen to be too large for the shafts, particularly in the case of the radius as it enters into the composition of the wrist-joint. At the same time, the finger-nails are often marked by large white spots, and the teeth, with milky opacities of the enamel.

The bones being slow in growth, the function of manufacture of blood-corpuscles is largely withheld from the medulla, and retained for a longer period than is natural in the blood-vessel-glands, notably the thyroid body, the tonsils, and the lymphatic glands. Hence a disposition exists for these structures to undergo hypertrophy. If this method of reasoning be accepted, it is evident that the presence of enlarged tonsils need not be regarded as a primary cause of the condition above outlined, though doubtless they may aid in a secondary manner in maintaining morbid determination of blood about the head; and if they are sufficiently bulky to cause obstruction in respiration while the mouth is closed, will in themselves create a class of disturbances peculiarly their own. All that is to be emphasized in this connection is the fact that the causes of tonsil enlargement are due to nutritive conditions.

(To be continued.)

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latter are more resisting, and at least in many genera are completely formed while the claws and hoofs are of continuous growth, and would be more readily influenced by changes in the surroundings.

*Among the applications of the rate of the growth of nails in connection with diseased states, reference may be made to papers by Dr. S. Weir Mitchell in paralysis, Dr. J. M. DaCosta in typhoid fever, C. E. Hasse in cyanosis, and Poland and Langenbeck in aneurism.

RIGIDITY OF THE CERVIX UTERI AND THE USE OF ERGOT.

BY S. W. DICKINSON, M. D.,
Of Marion, Va.

I have been hoping some one would follow up the article of Dr. Boardman Reed in REPORTER (January 6, 1883, p. 6), on "Methods of Overcoming Rigidity of the Os Uteri—How not to Use Ergot," with additional suggestions. Such cases (REPORTER, December 16, 1882, p. 697) as called out his paper, and the rather caustic review of our friend, Dr. Hiram Corson, in Pittsburg *Medical Journal* for August, 1883, but too frequently come to our ears, and besides rigidity of the cervix is "one of the chief causes of delay in the first stage of labor," and causes a great amount of preventable suffering, not to speak of lacerations of cervix and consequent troubles.

Ergot cannot overcome rigidity of cervix caused by premature discharge of liquor amnii, or as seen in either nervous or plethoric women. Headland (Action of Medicines, p. 261) tells us that ergot "is a stimulant to the muscular nerves of the uterus," and we know that by it is produced contraction of the uterine muscular fibres. Ergot then produces just the opposite effect from relaxation, and it is as sensible to try to lift one's self over a fence by his boot-straps as to give ergot to overcome a rigid cervix. So then, as both Headland and Playfair teach, we would not give ergot unless the os was dilated or dilatable, and there was no obstruction to a speedy delivery; for if "*not* followed by a rapid delivery a condition is produced which is serious to the mother," and "extremely perilous to the child" (Playfair). Chloroform the great relaxant of muscular contraction, "tends in a marked degree to diminish uterine action," and according to Playfair (p. 289), is "practically speaking, generally not admissible until the head is in the pelvic cavity." Dr. Reed prefers morphia and atropia hypodermically, but mentions chloral. Opiates by the mouth or enema were given by Cazeaux, when bleeding, hot baths, etc., failed, and remembering the power opium has to relieve spasm of the intestines in colic, etc., I would not hesitate to use it when other agents were rejected by the stomach.

Probably in this State (Virginia) the fluid extract, or tincture of gelsemium, first recommended by Dr. Payne, of Lynchburg, is as largely used as any other agent, and this, with chloral, is a capital combination in many cases. But in cases of a highly nervous and emotional temperament, rendering the patient acutely sensitive to her suffering, I am prepared to say with Playfair (p. 289), "I know of nothing which answers so well" as chloral, "and I believe its administration to be far more effective under such circumstances than any of the remedies usually employed." The following case will illustrate this: Some eight years ago I saw a lady in consultation, and found her tossing about in bed, pulse over 100, and apparently becoming exhausted. The physician in attendance, disheartened by long waiting, thought the forceps the only chance. I found the head had not escaped from the os, owing to a rigid cervix, and gave twenty grains of chloral, and repeated it in less than half an hour. Our patient became quiet; slept between pains, pulse came down, and she was delivered in a few hours with no other aid than helping rotation a little with my fingers.

Patience and a cheerful demeanor, though mentioned last, are by no means the least important factors in the management of these cases, and he who can command these virtues will succeed in cases where a nervous and fearful man will fail. In conclusion, while I would disclaim originality for the above views, still I hope they will interest some one, and be of service to those who cannot yet call on a past experience to help them in times of trouble.

REPORT OF A CASE OF TRISMUS NASCENTIUM.

BY N. B. KENNEDY, M. D.,
Of Hillsboro, Texas.

About two months ago, Mr. Ward, section boss of the section below Abbot Station, on the M. P. R. R., sent me a telegram to come at once to see his infant child.

On arrival, found a plump, hearty baby seven days old.

The mother gave me the following history: When the child was two days old, she (the child) had a very hard convulsion, and the convulsions had been coming on every hour since without intermission. Several physicians had been called, but were unable to diagnose the case.

An examination being made, I found the following conditions: The umbilicus was very much inflamed, and attached to one edge of it was a fungous growth some two inches in length and as large as the large end of a goose quill, and somewhat resembling the vermiform appendix of the cæcum.

I recognized a case of trismus nascentium by the following symptoms: Rigidity and stiffness of the muscles of the lower jaw, neck, and abdomen —*risus sardonicus*—spasm, ushered in by *opisthotonos*—protrusion of the tongue—rapid pulse and cold sweat. The fungous growth was inflamed, and pressure upon it was sufficient to excite the spasms. Deciding, therefore, that the fungous growth was creating all the disturbance I resolved to remove it. I caught it in my forceps, and with a sharp pair of scissors cut it off smooth with the surface of the umbilicus, restraining all hemorrhage by the free use of carbolic acid applied to the bleeding surface. I placed the infant on the following treatment:

℞. Potassii iodidi,
Potassii bromidi, āā ʒj.
Potassii carbonatis, ℈ij.
Ammonii bromidi, ʒss.
Infus. columbæ, ʒvi.
M. Signa.—Five drops every three hours in mother's milk.

℞. Iodoformi, ℈j.
Acidi carbolici, gr. x.
Ung. petrolei, ʒj.
M. Make an ointment. Sig.—spread on a soft cloth and keep constantly applied.

I ordered a tepid bath every morning for the babe; and instructed the mother to draw the milk from the breast, and give it, as the babe was unable to nurse.

Two days afterwards I received a second telegram summoning me the second time.

On arrival, the mother informed me the babe was still having convulsions, but that they were much lighter in character and at longer intervals. I found the stiffness of the muscles of the lower jaw, neck, and abdomen had greatly improved. So much so the babe could now take the breast, and nursed heartily. I ordered the dose of the medicine increased, and the baby had only three or four convulsions more. The convalescence was rapid and marked. There was no fever throughout the attack; and the baby continued to grow, and at this writing is the pride and delight of her parents.

In conclusion, permit me to say, I have never read of a similar case in any of the text-books, and during an active practice of twenty-five years have never met with such a case before.

If any of your numerous and intelligent readers have ever had such a case, I would be glad to hear from them.

And I would like further to know if I did right in removing the fungous growth in the manner I did.

Hospital Reports.

A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL.

BY CHARLES K. MILLS, M. D.,

Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic; Neurologist to the Hospital.

Reported by WILLIAM H. MORRISON, M. D.

Organic Hemianæsthesia; Methods of Studying Sensory Disturbance; Differential Diagnosis of Organic from Hysterical Hemianæsthesia.

GENTLEMEN: I propose this morning to lecture to you on true-organic hemianæsthesia, and the differential diagnosis between this affection and hysterical hemianæsthesia. The different methods of studying sensibility clinically will be described and discussed.

This patient, Annie H., age 40 years, single, white, has been in the nervous wards of this hospital since 1877. She came to this country from Ireland in 1860. As far as she knows, her family was healthy. She herself never had rheumatism. When I first saw her, she was suffering from an apoplectic seizure, in which she remained profoundly unconscious for several days, and did not regain her intelligence entirely for two or three weeks. On coming out of this condition, found that she was paralyzed on one side of the body, and not only was motor paralysis present, but there was also complete loss of sensation on the same side.

This attack appears to have been the third one that she had. During the continuance of the unconsciousness, there were marked variations of the pulse, respiration, and temperature. Touching the dorsum or sole of the foot produced reflex movements, which were more marked on the left than on the right side. For some time after the apoplectic attack, she suffered from headache, which was most marked over the anterior half of the left side of the head. This pain was increased by percussing any part of the cranium. She also had pains in the paralyzed shoulder. During the past few years her mental and physical condition has remained about the same, with the exception perhaps that the muscles and nerves have undergone further degeneration.

Let us now study her present condition. As you see, she appears to be pretty well preserved for a woman who has been sick so long. The face exhibits but little deformity. If any thing, there is a little smoothing of the lines of the face on the left side; but she can close her eyes firmly, corrugate the forehead equally, and draw up the corners of the mouth to the same extent on the two sides. She can slightly move the left arm, but cannot lift it. The arm is not much wasted. Contracture is seen at the elbow, wrist, and fingers, which is most marked at the wrist. It is, however, readily overcome with a little force. She is able to lift the left leg with about the same facility as she lifts the left arm. The right limb is also crippled, but from an entirely different reason. On this side there is anchylosis of the knee, with disease of the bone. There is contracture at the ankle of the left side, the foot being

thrown into a condition of *pes equinus varus*. When this condition affects both sides, it has a certain diagnostic value, to which I shall allude farther on.

The examination of sensibility or sensitivity is the next point to which I will call attention. The object of this lecture is not simply to make a diagnosis of this case, but also to teach you some of the practical methods of studying the sensibility. You are familiar with the mode of examining for loss of motion, by the power to make various voluntary movements, by electricity, and by other methods. But the clinical study of sensation is too much neglected by practitioners. Although so much attention has been paid to the localization of brain lesions, yet comparatively few of the cases of disturbance of sensation due to cerebral lesion have been placed on record. This is particularly true with reference to disorder of special sensation. The reason of this is that disturbance of sensation is readily overlooked by a careless investigator, or that he does not understand the best method of examination.

An interesting study among yourselves would be as to the normal differences of sensitivity. A work entitled "Inquiries into Human Faculty," has been recently published by Francis Galton, in which some of the results of experiments in regards to sensitivity of individuals in ordinary health are given. He has shown that the powers of discrimination are much finer in some than in others, and that the power to detect small variations is greatest in the intellectually ablest. He has also determined, contrary to what we should have expected, that sensitivity is higher in men than in women, basing his opinion on the fact that as a rule men are employed as tuners of piano-fortes, tasters of wine, and sorters of wool, and in other occupations requiring delicacy of touch, taste, or of other senses. This same author has also made some curious observations in regard to such senses as sight and hearing.

In disease, involving disorder of sensation, you should study sensation as regards pain, touch, temperature and weight. You should investigate then the special senses. The sight should be studied in reference to the near and far points, the ability to discriminate colors, the fine points in pictures, and so on. In reference to the ear, not only should it be determined whether or not the patient hears, or hears better with one ear than the other, but also as to his power of determining low and high notes.

The ability to detect painful impressions can be determined in various ways. I have here an æsthesiometer with two sets of points, one pair being blunt and the other sharp, and so arranged that either or both pairs may be used. First applying the blunt points to the right side of the face, she feels them distinctly; but on the left side, although I press forcibly, she feels nothing. As I pass across the forehead she detects nothing until I get to the right of the median line, and then she feels the points. The same is true of the chest. There is complete analgesia and anæsthesia to the left of the median line. The left leg is in the same condition. I now try the sharp points and obtain the same results. I could make a pincushion of the left side of her face without her feeling it. The moment I cross the median line, and not before, does she feel the presence of the needles. So much for the determination of cutaneous sensibility both for pain and touch.

Her power to discriminate between different temperatures is also lost. I have seen two cases, and they are the only ones which I can now recall, in which the sense of temperature was lost, while the sense of touch still remained. In testing this point, I shall use two sponges, one dipped in ice water, and the other into very hot water. On the right side she readily tells which sponge is placed on the arm, but on the left side she feels neither the hot nor the cold.

The experiments should be continued still further. You should examine the parts below the skin and test for muscular sensitivity and the sense of weight to pressure. An instrument has been invented for this purpose, called a piesmeter. This instrument consists of a cylinder about three-fourths of an inch in diameter and three inches long, in which is a piston which is kept pressed back to its fullest extent by a spring. At the end of the piston-rod is a flat disc, which is placed against the skin. The operator then presses against the end of the cylinder, thus forcing the piston into the barrel, and the amount of force exerted is readily read off on a scale on the instrument. On the right side she feels even the weight of the instrument, but on the left side, the strongest pressure elicits no response. Galton, in his experiments on this point, employed a series of test weights, consisting of a number of common gun-cartridge cases filled with alternate layers of shot, wool and wadding, and closed in the usual way. The appearance of these is identical, and their weights form a geometric series. The testing is performed by handing to the person operated upon, pairs of weights until his power of discrimination is approximately made out, and then proceeding more carefully. In a case as marked as this, the coarsest methods will suffice. I have here a series of ordinary weights from a few ounces to four pounds, and you see that the heaviest weight is not felt when placed upon the left arm.

The special senses next call for investigation. The eyes have been carefully examined with the ophthalmoscope and by other methods, and although the power of the left eye is less than the right, and the ability to perceive quickly is diminished, yet there are no changes in the retina or optic nerve.

The acuteness of the hearing can be determined roughly by the watch. But if it is desired to determine the ability to hear notes of different pitch, a whistle something like that used by Galton should be employed. He made a whistle which consisted of a piece of brass tubing, whose internal diameter was less than one-tenth of an inch. Into the lower end of this tube a plug was fitted which could be drawn out or pushed in at will, thereby enabling the operator to vary the length of the tube as desired. When the plug is drawn out the note is low; when pushed in, the note is high. On testing persons of different ages, he found that as age advanced, the ability to hear high notes diminished. He also experimented on animals in the Zoölogical Garden, and found that animals of the cat species had the greatest power in hearing high notes. Small dogs can hear much higher notes than can large dogs.

I have carefully examined the sense of taste, and have not found any marked impairment of either side.

One of the most difficult things to test is the sense of smell. Pungent substances, such as ammonia, should not be used. What is needed is something that has a dead smell without any pungency. Bi-sulphide of carbon would probably answer well, if there were not certain objections to its use. We shall try her to-day with rose-water. When the bottle is held to the left nostril she smells nothing, but on the right side she recognizes it immediately.

(*To be Continued.*)

NEW YORK HOSPITAL.

CLINIC OF PROF. WILLIAM H. DRAPER.

Reported by W. H. SEELYE, A. M., M. D.

Scabies.

The history of the next case is as follows: The patient, J. S., is 17 years of age, single, born in Prussia, and is a sailor by trade. He always enjoyed good health until two and a half years ago, when by overstraining himself he induced a left inguinal hernia. He did not have any eruptive diseases in childhood, and he has never had syphilis or gonorrhœa. He has not been in the habit of drinking to excess. Two weeks ago he noticed an itching between the fingers of his left hand, and this was followed by an eruption of a papular and vesicular character, which quickly spread to the other hand, and to the wrists, and to the arms, and the inner side of the elbows, and then to the chest, genitals, and thighs. The vesicles discharged a thick fluid, which dried upon them and formed crusts and thick scabs. This was most marked on the inner surfaces of the fingers, and at their junction with the hand. He says he does not know how he became infected.

You will observe, gentlemen, that although this eruption is pretty general in its distribution, yet it is mostly confined to those parts of the body which are within easy reach of the patient's hands, where, you remember, it started. So you find very little eruption below the knees, but there are some vesicles on the thighs, and they are very distinct upon the foreskin of the penis, and well marked upon the arms, and especially so upon the hands and wrists. But you will notice that there are none upon the face and neck. If you will examine him more carefully, you will observe that there is no distinct, peculiar, or individual character to the lesion; but there are some erythematous spots, and some vesicles, pustules, blebs, and superficial ulcers, and some small papules, the summits of which have been torn off by the finger nails in scratching, and they are therefore now surmounted by a little drop of dried blood. This man is a museum, so to speak, of all the various forms of cutaneous lesions. He has in fact a polymorphous lesion.

The disease from which he is suffering is scabies. And this polymorphism in the eruption is very characteristic of scabies, after it has existed for some time. This man dates the beginning of his trouble back to only a fortnight since, and so the disease has made very rapid progress. You will not very often meet with this disease in private practice, but you will see it every now and then, and you will find it a most satisfactory disease to treat, after you have succeeded in forming a correct diagnosis. It depends upon the presence of a parasitic animal, and generally in man, of that particular variety called the acarus scabiei. It is contagious, as are all parasitic diseases. But the degree of this contagiousness depends to a certain extent upon peculiarities in the individual exposed. All persons are not equally sensitive to the attacks of this parasite. And this fact is also true as regards the susceptibility of different individuals to those minute organisms called bacteria, which are supposed, by entering into the blood, to cause that class of contagious diseases of which diphtheria is an example.

In either case something besides the contagious element is necessary, and that is a proper host. These integumentary parasites are careful to select their host, and they will often decline to live upon certain bodies, because they do not find them congenial. And I suppose, gentlemen, that a certain number of you might hold this man's hand for a time, and not take the itch from him. But it is probable that a large proportion of you would. There are many curious features in the natural history of this disease which it would be interesting to talk about; but as our time is limited, and as they are not essential to an understanding of the disease, I will not stop to discuss them now.

But this much it is important that you should know, namely, that this acarus is an insect which can readily be seen by the naked eye, and that while it thrives upon the integument generally, yet it chooses for its invasions certain special parts of the body in preference to others. Thus the tender integument upon the inside of the fingers, and the wrists, the axillæ, the genital organs, the toes, and the parts around the ankles, are the principal seats of election. And in certain tradespeople, and artisans, they sometimes select other parts by preference, to which they are attracted by reason of the unusual warmth or pressure to which these parts are exposed. Thus in tailors and shoemakers, and those who ride much in the saddle, and in those who retain the sitting posture constantly while at their business, it selects the skin of the buttocks just over the tuberosities of the ischia. The disease most frequently begins in the hands, and it is transferred by them to the other parts of the body which are handled the most.

The insect bores its way into the epidermis, and does not live upon the surface of the skin. It is, therefore, really not an epizōon, though it is classed among them. The female makes her nest between the horny and the mucous layers of the skin, and there she lays her eggs, and in a week or ten days they become matured and the young are discharged from the ova. The male also burrows, but not so deeply, but it migrates farther.

Symptoms.—The first subjective symptom of this disease is usually an itching between the fingers, which is sometimes extremely severe. And in nervous individuals, after the disease has spread to other parts, there is a general hyperæsthesia of the skin, and they scratch themselves everywhere they can reach. So only a small portion of this polymorphous eruption which you see is produced

by the insect, but it is largely due to the violent scratching and tearing of the skin by the patient's finger-nails. Thus a general eczema may be produced as a consequence of this constant irritation.

The next objective symptom is the appearance of an eruption, which is somewhat peculiar in its early stages. Little vesicles first appear between the fingers, and upon close examination a canaliculus may be seen running from each of these. Each of these canaliculi is made by the burrowing of an insect just beneath the epidermis; and each is a quarter of an inch or more in length, and terminates in a vesicle in which the insect has made its nest and laid its eggs.

This little canal has been said to be the essential diagnostic element of this disease, and if you do not find this, the suspected vesicle is not due to scabies. But I think this is too strong a statement, for you will now and then find vesicles which contain no animal, and hence there is no canal leading to them. There is no difficulty, as a rule, in finding the acarus. Simply take a common sewing needle and insert it into the canaliculus and carry it along until it reaches into the vesicle, then rupture the vesicle and bring the needle out, and upon its point you will usually find the animal. But you must remember that while this is the characteristic vesicle of scabies, yet its peculiarity is often destroyed by scratching, and this is especially true as regards children. The crucial test in all cases, however, is the discovery of the insect.

The prognosis is always good in these cases, if they are properly treated.

The rational treatment, which consists in removing the cause of the trouble, is perfectly applicable here. This may be done in many ways, for there are many means of destroying the insect. Sulphur, however, is the classical remedy for this disease; and it was used in the earliest times, and is probably to this day the most universally employed for this purpose. Its action on the skin may be obtained in various ways, either by means of sulphur baths, by fumigations, or by ointments. Perhaps I can do no better than to describe to you the way the treatment is carried out on a large scale in the hospitals of Paris, and particularly in the hospital of Saint Louis, where a special department is devoted to the treatment of skin diseases. Here they have a large apartment, into which every morning the patient is sent naked. The first thing each one does is to thoroughly soap himself with soft soap, and then each soaps his neighbor over those parts which he cannot himself reach. This is done in order to soften the epidermis. The patient then goes into another apartment where there is a hot bath, into which he gets, and lies there from twenty minutes to half an hour. He then dries himself and goes into another room, in the middle of which stands a large tub filled with an ointment which consists of carbonate of potash one part, to flowers of sulphur three parts, and lard eight parts. Each patient now rubs this ointment freely into all the crevices of the skin, and then dresses himself again in his own clothing. This can be safely done, for the process is so thorough that the ointment which is left on the skin effectually destroys all the insects which may be present in the clothing. After repeating this process from three to five times, the most obstinate cases of scabies are cured. There is no better plan of treatment than this to follow, even in private practice, for it can be carried out at the patient's home almost as conveniently as in a hospital. This process of softening the epidermis before applying the ointment is very important, in order to thoroughly destroy the vesicles, and the eggs, and the immature animals, which are concealed in them. Another important point to remember is to apply the ointment to the whole surface of the body, and not simply to the parts which seem to be affected. For this is a migratory animal, and without this precaution you may fail to destroy some which have wandered to distant parts. The head and neck are the only parts of the body which can be spared, for it is extremely rare to find that they have invaded these regions.

Carbolic acid, creasote, iodide of potassium, and the salts of mercury, have also been successfully used in this disease, for they are all destructive to the lower forms of both animal and vegetable life.

A peculiar fact in the history of scabies is that the same theories have been held with regard to the significance of the acarus, as have more recently been held by investigators with regard to those low organisms which are now supposed to enter into the circulation, and to produce the various forms of infectious fevers. That is, it has been maintained by some that the acarus is not the cause, but only one of the products of the disease. It is, they said, an example of spontaneous generation, for the fluids of the body are in just that condition which is favorable to the development of these animals within the vesicles. And so they are only an incident, and have no share in the production of the disease. On the other hand, the idea prevailed with many in the sixteenth and seventeenth centuries, that the psora was the basis not only of the itch, but of all diseases. It was for instance supposed that this animal got into the bladder, and so caused diseases of the kidneys, or by getting into the joints it caused gout; and so it was considered to be the universal cause of all maladies. The same notion prevailed for a long time in regard to those spores which cause prurigo favosa, and herpes circinatus. And the view taken by Mr. Erichsen until recently in regard to prurigo favosa, is that it is a disease of inflammatory origin in which spores are found as a complication, and not as a true cause of the disease. In like manner, many now maintain that the bacteria which are found are not the cause, but only an incident in the development of surgical fevers, diphtheria, and the like.

Medical Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Discussion on Composition of Milk and Infant Feeding. **(See Pp. 193 and 225.)**

The President called attention to the following points for discussion:

1. Any method of analysis which is to be generally accepted must be susceptible of verification.
2. All previous analysts agree about the

amounts of water, fat, and ash; therefore, about the amounts of casein and sugar alone is there any disagreement.

3. Further, all agree about the sum of the amounts of these two elements (casein and sugar), but diverge widely about their individual amounts.

4. If it has been proved that, collectively, casein and sugar amount to about eight per cent., and that the sugar is about seven per cent., it then follows that the casein is only one per cent.

5. When subjected to the same method of analysis, human milk yields nearly seven per cent. of crystalline sugar, and cows' milk about four per cent.

6. To be able to make a proper food for infants, we must first understand the composition of their natural food—human milk.

7. Is there any great and important difference between the casein of human milk and that of cows' milk, except that it is contained in the latter in a larger proportion?

8. In preparing cows' milk for infants, clinicians usually direct that it be diluted, and some sugar and lime-water added; but more precision of advice is needed.

9. What is the best method of making an artificial food like human milk?

10. What is the propriety of increasing the nutritive quality of the food from month to month, as the child grows older?

11. What can be said of condensed milk as a diet for infants?

Dr. J. Cheston Morris, in opening the discussion at the request of the chair, said: It gives me great pleasure to pay my tribute of respect to the accuracy and industry which Dr. Meigs has so evidently exhibited in his investigations, though they have led him to very different results from my own. Accurate analysis, even of inorganic bodies, is difficult, as many of us know who have tried it; but accurate analysis of inorganic mixtures is far more so, from the changes continually going on in them.

A perfect method of milk analysis is probably not yet attained. Dr. Meigs having replied to a question from Dr. Morris that he obtained the amount of fat present by repeated washings of the milk with ether and alcohol, Dr. Morris resumed: The extraction of all the fat present is difficult, owing to the globules being surrounded by a thin membrane of casein; this has been proved by Mitscherlich, who advises the previous agitation of the milk with a small quantity of solution of caustic potash, when the ether immediately dissolves out the fat. Perhaps the best process yet devised is that of the Society of Public Analysts of Great Britain, given at length in various numbers of the *Analyst*.

The amount of water present in normal milk does not vary very much, nor does that of ash; but judging from the report of over 12,000 analyses, made by Dr. Viette for the Aylesbury Dairy Company of London, that of the fat in cows' milk does vary from 3 per cent. to between 5 and 6 per cent. Any result less than 3 per cent. is regarded as proof of adulteration. So far is the amount of water, ash and fat from being regarded as agreed upon among analysts, that the problem with them generally has been to obtain a method which would enable them readily to ascertain this latter factor; and Mr. Hehner has constructed, as a means to detect adulteration, a table showing the relation between the specific gravity and the fat present, the solids *not* fat (*i. e.*, casein and sugar), being taken as constants. To what extent these are really so may be judged from the analyses of Dr. Viette, above quoted, showing a maximum of 10.31 per cent. and a minimum of 8.97 per cent. in over 12,000 analyses. The total average is about 9.5 per cent. in cows' milk. But all cows' milk is not alike; that from different breeds has marked peculiarities and differences, perceptible even to the eye and the taste. The milk from the Jersey cow is rich in fat, but poor in casein and sugar; that from the Durham is comparatively watery, and poor in fat and sugar, though relatively rich in casein; that of the Devon is nearly as rich in fat as that of the Jersey, and in casein as the Durham, and richer in sugar than either of them. The commercial uses of these breeds in butter and cheese making, bear out the above statements.

Another reason for thinking that 1 per cent. is too low an estimate of the amount of casein in human milk, is that such a proportion would hardly supply the needed amount of nitrogenous food to the infant. Lehmann tells us that the amount of milk secreted daily by the human female may be estimated at 2.2 per cent. of her weight; so that a woman of 150 pounds would produce 3.3 pounds milk, or 23,100 grains—rather more than a quart and a gill. If only 1 per cent. of this is casein, it would give only 231 grains; if she weighed only 120 pounds, there would be only 2.64 pounds of milk, of which only 185 grains would be nitrogenous. Authorities on diet tell us that the human being requires food amounting to one-twenty-fourth to one-twentieth of his weight, of which one-fifth, or 1 per cent. of the whole, should be nitrogenous. Applying this rule to the infant, which has certainly larger needs for food for development, a weight of 10 pounds, or 70,000 grains, would require 700 grains of nitrogenous food—a figure nearly approximating that which would be yielded by a milk containing 3 per cent. of casein. In colostrum, however, we have a fluid poor in casein, but rich in sugar and fat.

Casein and sugar, we are told by Lehmann, are both soluble to some extent in alcohol. I have studied the question of the identity of casein of cows' and human milk, without being able fully to satisfy myself, but am inclined to regard them as differing mainly in coagulability. This may depend on the salts with which they are associated, as may also the acidity or alkalinity of the milk. These salts have, relatively to the serum of the blood, a preponderance of phosphates and potassium salts to the chlorides and sodium salts; and the acidity or alkalinity of cows' milk is influenced by their food. As a rule, I believe it is alkaline.

I am in the habit of directing, as food for newborn infants, a mixture resembling colostrum—one part cows' milk to two or three of water, with a little sugar, for infants of two to six months; equal parts of milk and water, warmed and sweetened, for infants over six months; two parts milk and one of water, etc. As to quantity and frequency, much must depend on the child.

Dr. Parish: I cannot pass judgment upon the chemical question, but the matter of substitutes for human milk is one that I am brought face to face with every day in private practice, and in public institutions. I have had but little successful results with any of the prepared foods in the market, except condensed milk. I have frequently been called to see infants who have been seriously sickened by the use of such foods, or by other ill-advised articles of infant diet.

If I have care of a child from birth, who is to be brought up without human milk, I begin with condensed milk; during the first few days I direct that one heaped teaspoonful should be dissolved in thirty teaspoonfuls of water; about the end of the first week one teaspoonful of the milk in twenty-five of water; at the end of a month one teaspoonful in twenty of water; at about the end of the second month I have added one-fourth cream; at the eighth month a change is made to cows' milk, diluted with one-third water, with occasional use of beef-tea, etc., according to the age.

I do not think a child using condensed milk for sixteen or eighteen months continues to thrive so well as if the method stated is resorted to. Cows' milk is unsafe for young infants in the cities.

The addition of cream is advantageous by overcoming constipation accompanying the use of condensed milk, and by contributing very perceptibly to the nutrition of the infant.

If a child, dependent chiefly on cows' milk, is taken sick, with bronchitis or any febrile disease, or with any digestive derangement, I recur to condensed milk as a sick diet.

Dr. Meigs, in closing the discussion, said: I do not see that anything has been said to disprove what I have advanced, which was, substantially, that if analysis shows the water, fat, sugar, and salts of milk to equal a certain amount, then the casein can only equal the difference between that amount and the total quantity of milk taken. We know what these four substances are, and can identify and estimate them. What casein is, however, is not yet fully understood; but we cannot escape from the conclusion as to its small amount in human milk, unless the process of analysis be shown to be erroneous in regard to some one of the other four constituents. I have noticed, incidentally, that the clear ethereal solution of the fat of milk sometimes lets fall a precipitate after standing. This I at first thought to be casein, but as it melted when warmed, it must be some one of the forms of fat, but is insoluble in ether.

I do not think that the specific gravity is any guide as to the composition of milk—Mr. Wanklyn has shown its utter unreliability; nor do I think that we can distinguish the different amounts of sugar or casein in milk by the difference of taste or amount of coagulum. Milk-sugar has very little sweetish taste. The composition of milk is tolerably constant; it is not subject to such large variation within normal limits as urine is. Milk does vary much in its amount of fat. That first drawn from a woman who has not nursed her child for some hours, will usually contain only two or three per cent. of fat, while that taken just after nursing may contain nine per cent.

As regards the amount secreted by women, very absurd statements—much below the proper figure—have been made by some of the older authorities, but Dr. John F. Meigs succeeded in one case in getting as much as three pints in twenty-four hours.

The salt which exists in largest quantity in milk is sodium phosphate. Cows' milk is almost always acid, while human milk is almost always alkaline in reaction.

Most authorities agree that cows' milk must be diluted when used for infants. Why is this, if not because the casein is less in human milk?

I agree with Dr. Parish that most of the prepared foods are not good. Condensed milk is largely used by physicians in this city, and I believe its success is due to the fact that it gives only about one per cent. of casein, as usually directed to be given. Condensed milk contains about fifty per cent. sugar. It is not unlikely that some of the milk-sugar is removed from it. Milk-sugar and casein are entirely insoluble in absolute alcohol, and alcohol will only take up very small quantities of milk-sugar as it becomes dilute, and only when it is very dilute will it take up any considerable amount.

My effort has been to place the demonstration of the amounts of the different constituents of human milk, so far as possible, upon a mathematical basis; and unless it can be shown that the estimate of some one of the four constituents—water, fat, sugar, or salts—is wrong, then it has been proved that human milk contains only the small amount of casein stated.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Dr. John H. Packard read a paper entitled

Report of a Case of Abdominal Tumor Somewhat Resembling Pregnancy in a Young Married Woman.

I venture to hope that the following report of a case presenting some unusual features may be of sufficient interest to warrant me in bringing it before the College:

Mrs. G., æt. 21, a very slim and delicate-looking woman, consulted me on the 21st of July in regard to a slight and uniform abdominal enlargement, which had been first noticed by her shortly after her marriage, about three months previously, and had been gradually and steadily increasing. She menstruated regularly every month, and had had no nausea. Neither the breasts nor nipples showed any change from the virgin state.

There was no tenderness at any point in the abdomen, and the appearance and feel of the swelling were very much such as would be presented in the early stages of pregnancy.

On the 26th I saw her again, and made an examination per vaginam. The os uteri was soft, and the cervix was of some length; but there was a bulging above, as if the uterus contained a mass partly solid and partly liquid. I did not, of course, think it right at this time to introduce a sound, as, in spite of the absence of rational signs, the presumption seemed to me to be in favor of pregnancy. One fact seemed to militate against this view, viz., that she rather lost than gained flesh.

I declined to express any opinion as to the

character of the swelling, but told the husband that my hope was that the case would prove to be one of pregnancy, as it was likely otherwise to be very grave.

There was a good deal of pain on either side of the hypogastrium, apparently due to tension of the muscles; this was temporarily relieved by the use of chloroform liniment. She had very little appetite, and I gave her a tonic composed of nux vomica and gentian.

The swelling continued to progress steadily, and on September 13 she presented the appearance of being about the middle of the fifth month of gestation. The hypogastric pain troubled her greatly, and was only allayed for a very short time after each application of the liniment.

At the desire of the family, I now asked and obtained the advice of Dr. Ellwood Wilson, who saw her with me on September 15.

In the forty-eight hours which had elapsed between my previous visit and this one, a very marked change had taken place. The abdomen had become greatly enlarged, its walls forming one curve from the ensiform cartilage to the pubes; there was very decided fluctuation, and percussion showed an area of dullness, which was attributed by Dr. Wilson to the existence of a cystic tumor connected either with the Fallopian tube or with the broad ligament. A sound was introduced into the uterus, the cavity of which was found to be unoccupied. Dr. Wilson advised the drawing off of the liquid, which was accordingly done by aspiration on the 17th. More than a gallon of ropy yellow liquid, somewhat deeply tinged with blood, was thus removed; the flow then ceased, and the end of the canula encountered a solid substance, apparently a septum of considerable thickness. Upon the withdrawal of the instrument, a fresh flow took place, the liquid spouting out from the orifice to a distance of several inches. When this subsided, the abdomen, which was much less tense, was covered with raw cotton, and a bandage carefully and firmly applied.

During the operation, the patient became quite faint, but rallied after the administration of a little brandy and water. In the evening her temperature arose to 103.5°, but before morning it fell to about 100°. She slept very little, and complained of much pain, due partly to the stiffening of the cotton and bandage by the agglutination of some of the liquid which oozed from the belly. On examining the wound in the morning, it was found closed.

The following evening the temperature again rose to 103.5°, but subsided again before morning, and was not thereafter above 99°. Yet her condition was unsatisfactory; her face was much pinched, and anxious; she had very little appetite or ability to take food; at times her mind wandered slightly, and she slept but little. Vomiting occurred frequently, and she was seldom free from nausea. Her bowels acted regularly; her urine was free, and normal in every respect. Her pulse varied, but was generally from 110 to 120.

Beef-tea, milk, with brandy and lime-water, and champagne, were given at as short intervals as the stomach could bear them, and at stated times. External warmth was carefully kept up.

It was determined that should symptoms of peritonitis present themselves, ovariotomy should be at once resorted to.

A portion of the liquid was submitted to Dr. H. F. Formad for examination, and his report, which was not received until some time after the case had terminated, was: "I think it very doubtful that it comes from an ovarian cyst, the fluid showing very little epithelium, and very few of the ovarian cells of Drysdale."

September 23, her condition was very much more favorable; her mind was composed and even cheerful; her pulse and temperature good. Some food had been taken and retained.

On the 24th her state was much the same, and it was thought proper to entertain the idea of an operation for the removal of the supposed ovarian tumor. In the afternoon Dr. Agnew saw her with Dr. Wilson and myself, and it was decided that the attempt should be made on the following day.

Accordingly, on the 25th, at noon, ether was administered by Dr. G. P. Sargent, of Bryn Mawr, and in the presence of Drs. Wilson and Agnew, I opened the abdomen by an incision in the median line. After dividing the wall I came to what seemed to be a cyst, and passed in an ovariotomy trocar, when a very free evacuation of liquid, straw-colored and ropy, but clear, took place. It was now apparent that the liquid was contained in the peritoneal cavity, and that there was a lage solid mass lying among the intestines. This tumor was soft and doughy, like a placenta; it seemed to belong to the mesentery, since although somewhat movable, it was firmly attached to the posterior wall of the abdomen, rather high up. The surface of the mass having been slightly lacerated, there was somewhat free bleeding, which was checked with some difficulty by ligation with carbolized catgut, and by the application of a cautery-iron.

The wound was now closed with two large pins and a ligature cast around them, and with metallic sutures; a sheet of raw cotton was applied over the whole belly, and secured by a bandage.

The patient rallied considerably, and after the effects of the ether had passed off, became quite sensible; but she soon began to sink, and died on the 27th, about forty-eight hours after the operation.

No autopsy could be obtained, so that the exact nature and connections of the tumor must remain a matter of conjecture.

The notable points in the case now detailed seem to me to be the occurrence of a solid tumor, probably of malignant character, and apparently connected with the mesentery, in a young woman recently married; its resemblance in its physical appearances to the pregnant womb; the very sudden change that took place by fresh effusion into the peritoneal cavity, and the obscurity which even then existed as to the real nature of the case. Even with the most accurate diagnosis, effective treatment would have been out of the question; and I cannot but think that my suspicion of pregnancy, erroneous as it proved to be, really prolonged the patient's life, which would have been almost necessarily sacrificed by earlier interference.

—Prof. DaCosta teaches that arsenic, in small doses, is very useful in chronic gout.

EDITORIAL DEPARTMENT.

PERISCOPE.

Primary Cancer of the Gall Bladder.

Dr. A. H. P. Leuf reports this case in the *Proceedings of the Medical Society, County Kings*, February, 1884:

The following case occurred in the service of Dr. Geo. H. Kuhn, at St. Mary's Hospital. The accompanying meagre history is all that could be obtained, and is furnished by I. H. Platt, M. D., House Physician at the hospital:

Female; æt. 70 years; English; married; and housekeeper.

She was sent up from the down-town St. Mary's, without a history. She had been feeling badly since last winter, and for the last two months has been jaundiced. At time of admission she complained of great pain across the abdomen, also seemed very weak. The abdomen was enlarged. The liver extended down almost to the crest of the ilium and hard masses could be felt projecting from it by palpation. Gave ♏. viii. of Magendie's solution which partially relieved the pain. She sank rapidly during the night and died the next morning at 9.30 o'clock.

Autopsy.—Body markedly emaciated. Average *rigor mortis*. Deep lemon-yellow color of skin all over the body. Both *lungs* were emphysematous (senile) and hypostatically congested. The *heart* was flaccid and contained a little blood. The *stomach* was about half full of liquid food and gas. Its pyloric portion was adherent to the gall bladder and hepatic end of the transverse colon. On raising the liver from the stomach, a small piece of gastric wall, about .5 cm. in diameter, stuck to the liver and left a corresponding opening in the stomach. This hole was a post-mortem accident, but must have happened ante-mortem in a short time had the patient lived a little longer. The *gut* was contracted, and the *colon* was agglutinated as just mentioned. The *liver* was very much enlarged, its right lobe extending down to the anterior superior iliac spine, and the left as far down as the umbilicus and over against the ribs of the left side. It contained cancerous nodules varying in size from a pin's head to 6 cm. in diameter. The *gall bladder* was very long, and contained eighteen good-sized stones. One was different from all the others in its being dome-shaped, with a flattened base and granular surface. It occupied the distal end of the gall bladder, and was about 2 cm. in diameter at the base. The free end of the gall bladder was normal, but its narrower half was thickened so as to measure fully 2 cm. through any part of its upper wall. This part of the viscus was almost as firm as cartilage, and it was at this point that the gall bladder, stomach, and colon were adherent. The *spleen* was normal in *size* and otherwise. The *pancreas* was slightly indurated at the head. The *right kidney* was congested and the *left* anæmic. The *uterus* contained a hard cancerous nodule in its anterior wall at the cervico-corporeal junction. It measured about 2 cm. in diameter.

It is probable that the congestion of the right kidney was secondary and due to the hepatic disease, and that the anæmia of its fellow was dependent upon the poor general health of the patient.

Hepatic carcinoma may be either primary or secondary. The former is rare, the latter occurs frequently by metastasis. The variety is usually scirrhus, but sometimes is encephaloid. When primary, it appears as a large mass surrounded by smaller ones, and when secondary, large and small masses occur indiscriminately throughout the organ. Primary cancer of the gall bladder is more common, and it is almost invariably of the scirrhus variety, as might be supposed *a priori* from the structure of this viscus. In this form of cancer of the gall bladder the cavity is diminished at the same time that general enlargement takes place, *i. e.*, there is a thickening of the wall internally and externally. The cavity is often filled with calculi (as in this case). When the bladder is thus affected, it forms adhesions to all the structures with which it is brought in contact, and subsequently induces in them locally the same trouble. The liver is the most frequent seat of secondary carcinoma. Cancerous changes in the liver are most marked in those parts adjacent to the primary infecting focus, provided that it is in contact with the liver, as the stomach, hepatic flexure of the colon, gall bladder, etc. Umbilication is also a marked characteristic of the cancer nodules found upon the surface of the liver. It is caused by a breaking down of the centre of the cancerous mass and its consequent absorption, thus resulting in a falling in of the middle of the surface of the moplastic nodule, while the healthy margin preserves its original relations. The liver is also larger in the encephaloid variety of cancer than in the scirrhus variety. The reason for this is obvious, as the growth of the former is more rapid than of the latter, and in this wise allows the affected organ to attain a larger size in a given time, *i. e.*, before death. Hepatic carcinoma is also peculiar in that it invades branches of the portal vein, forming inward projections having a warty appearance and a sessile attachment. Sarcoma hepatis is frequently said to exist when the affection should properly be classed as a carcinoma. Sarcoma of the liver, it is well to bear in mind, is very rare, only occurring as a secondary formation, and then almost always derived from the melanotic variety.

The Treatment of Habitual Constipation.

Dr. F. P. Atkinson thus writes in the *Practitioner*, January, 1884: I suppose there is no derangement of the system we are more frequently called upon to treat than habitual constipation; and though all kinds of medicines are suggested for its relief, they rarely produce more than temporary benefit—and it is difficult to see how the result can well be otherwise, while the root of the evil remains untouched. Now by far the more numerous subjects of this disorder are women;

and as they do not seem to know that regularity is essential to the performance of every one of nature's operations, they appoint no stated times for trying to get the bowels relieved, but trust to receiving intimation when the rectal accumulation and distension can be borne no longer. This method of action may and does answer fairly well for a time; but nature gradually gets upset, the sensation of the lower bowel becomes blunted, and at last it ceases to respond to the ordinary stimulus. Then aperients are regularly resorted to, and though these act fairly well for a time, they gradually have to be increased in strength and frequency. Now, as regards the treatment, the first thing to be accomplished is of course to get the rectum well relieved; the next, to get the actions to take place at fixed times; and lastly, it is necessary to get more tone imparted to the muscular tissue of the bowels, so that the regularity of action may be helped and also maintained. In order, then, to get the bowels relieved in the first instance, it is as well to give five grains of both compound colocynth and compound rhubarb pill at bed time (this rarely requires to be repeated), then to take a tumblerful of cold water the next morning on waking, and repeat it regularly at the same time each day. Should the bowels remain sluggish for some time, the same quantity of water may be taken daily before each meal. Supposing no action takes place on rising or shortly after, a small injection of warm water may be resorted to. After each movement of the bowels, a small hand-ball syringeful of *cold* water should be thrown into the rectum and retained. A soup-plateful of coarse oatmeal porridge (made with water and taken according to the Scotch method, viz., by filling half the spoon with the hot porridge and the other with cold milk) each night at bed-time, or even every night and morning for a time, is often a very great help. But above all things, it is necessary for the patient to *try* and get relief at a certain *fixed* time regularly every day. If these directions are strictly carried out in their entirety, the evil, even if it has been of long standing, will generally be corrected, and the patient will improve in health and appearance. Of course, where the constipation results from exhaustion of the nervous system (such, for instance, as is brought about by self-abuse), the special cause has to be taken into consideration, and such treatment adopted as is suited to the particular necessities of the case.

On the Treatment of Hay Fever and Allied Disorders.

In a very valuable paper on this subject in the *American Journal of the Medical Sciences* for January, 1884, Dr. Harrison Allen claims that the means of effecting the cure of this hitherto considered incurable disease is simply to overcome the tendency to obstruction in the nasal chambers.

The symptoms of hay fever are always associated with some degree of obstruction of one or both nasal chambers. A cause of this obstruction is dilatation of the blood-vessels. There is no doubt that the local phenomena are in most instances the same, and that the multiform related symptoms, such as injection of the eye, headache, malaise, asthma, etc., are due to reflex vasomotor disturbances. But many patients report for treatment who exhibit swelling of the nasal mucous membrane, occlusion of the respiratory passages, and mucoid or semi-purulent discharge, without any of the related reflex phenomena. Yet a third and intermediate group exhibit perhaps a tendency to turgescence of the mucous membrane, together with one or more of the more common constitutional symptoms of typical hay fever. Indeed, there is nothing peculiar to the disease just named save its sharply defined periodicity, particularly in that phase of it where the periods of recurrence happen to coincide with the time of fruitage of certain plants, or the gathering of certain crops. In a small group of cases, where, in addition, other signs and symptoms become prominent which would invalidate the above proposition, Dr. Allen is inclined to attribute them to mental impression —in some of the varied phases of hysterical or neurotic excitement.

Or the case may be stated in different language, as follows: In an imperfectly defined group of cases of nasal catarrh, a sensation of sudden obstruction of one or both nasal chambers is a conspicuous symptom. This sensation is accompanied by a constant change in the chambers themselves, viz., engorgement of the membranes over the turbinated bones, producing pressure against the septum and occlusion of the respiratory passages of the nose. The sensations are recurrent, but vary greatly as to the time of the day or the season of their return. With some patients they are nocturnal, and are associated with the recumbent position; with others they occur after meals only; with some they occur in the summer season; with others yet again, in the winter. The sensations may be confined to either chamber, or be present in both. In aggravated cases they are associated with numerous reflex symptoms, among which may be mentioned lachrymation and hyperæsthesia of the conjunctiva, headache, and asthma. Patients having a disposition to obstruction during the summer and autumn report themselves as suffering from "hay fever;" while those having alternating attacks in the right and the left chambers report with "nasal catarrh."

The cases so far studied exhibit one feature in common, viz., that the inferior turbinated bones lie well above the plane of the floor of the nasal vestibule. In many persons, not the subjects of "hay-fever" and allied disorders, the lower free portion, including, of course, the inferior border of the bone, lies below the plane of the floor of the nasal vestibule; and in ordinary inspection the inferior meatus is out of sight.

It will thus be seen that the mucous membrane, which is known to be the most erectile, is also the most exposed to irritation from extraneous substances, and to changes in the temperature of the surrounding air.

The conclusions to be drawn from the study of the six cases reported by Dr. Allen may be summarized briefly as follows:

1. That the treatment of all conditions of obstruction in the nasal chambers, no matter from what cause arising, can be successfully carried out by destroying the causes of obstruction. If the cause be an overgrowth of bone-tissue, if must be filed, sawed, or drilled away. If it be caused by a deviated cartilaginous portion of the septum,

such portion must be re-set in a new place. If, as is often the case, it is due to periodic turgescence of the mucous membrance, or the resulting secondary hypertrophies, such growths must be destroyed, either by the galvano-cautery, by the snare, or by caustic acids.

2. That the treatment of hay-fever and allied periodically-recurring nasal affections in no way differs from the treatment of other nasal diseases accompanied by obstruction, and that the treatment may be conducted during an attack as well as in the intervals between any two attacks.

Foot-measurements in New-Born Children. A Contribution to the Treatment of Pelvic Presentations.

The *Am. Jour. Obstet.*, January 1884, says that Gonner, in the *Ztsch. f. Geb. u. Gyn.*, ix., 2, complains that the most systematic authors in obstetrics say too little in regard to the difficulties which accompany extraction in breech presentations, whether these difficulties be primary or secondary to turning. The importance of knowledge upon this subject can be appreciated when we remember its bearing upon prognosis in respect to the life of the child. We have methods sufficiently accurate for ascertaining the dimensions of the mother's pelvis, as those of the child's head; but nothing has heretofore been offered which would enable us to get a good general idea of the size of the fœtus in utero. Ahlfeld's method with the instrument (Tasterzirkel) devised by him is inaccurate, and gives useless results. In order to obtain an approximate idea of the size of the child, we must get an accurate measurement of some part which is accessible, and this part must bear a tolerably constant relation to the size or proportions of the entire body. Such a part in breech presentations is the foot. In order to ascertain whether the length of the foot stood in any particular relation to the weight of the child, measurements were taken in one hundred consecutive births, during the year 1881, at the Basle obstetric clinic. The measurements were made immediately post-partum, with a wooden instrument similar to that which is used as a measuring-stick by shoemakers, and in a similar manner. In a procedure which is apparently so simple, great pains are necessary, for the differences in the length of the feet of new-born infants are slight. As a result of the author's labors in the cases mentioned, the conclusion reached was that for a length of foot of eight centimetres a total weight of three thousand grammes might be expected as a rule; also that a length exceeding eight centimetres made it probable that the child's weight exceeded that of the average mature fœtus, and that extraordinary difficulties in extraction might be expected. By considering, in addition, the measurements of the maternal pelvis, data are afforded, says the author, which will enable us to prognosticate the birth of a living child, or the necessity for a destructive operation. It must be borne in mind always that these calculations have no reference to hydrocephalic children, and those who are subjects of other deformities, A foot which measures seven and six-tenths centimetres in length presupposes a child of moderate size; a length of less than seven and three-tenths centimetres presupposes an immature fœtus. In the tables which are given by the author, a tolerably constant difference in weight is observed, between male and female children, in cases in which the feet of both sexes are of the same length, the females being the heavier; but this is not considered of any especial importance in an obstetric point of view. The occupation of the parents, also, has something to do with the size of the hands and feet of the offspring, and as the measurements in the tables referred to were taken upon children in the poorer, or working classes, the relative weights are, probably, larger than would obtain among the children of those who are not habitually engaged in severe manual labor. Race and national peculiarities may also require consideration, and it is to be hoped that the subject will be worked in other fields, for the perfection of the desired statistics.

Tubercle and its Resistance to Antiseptics.

The *Med. Times and Gaz.*, December 29, 1883, says: In a previous number of this journal (vol. ii., 1882, p. 669), a brief notice will be found of a paper which appeared in the *Revue de Médicine*, by M. H. Martin, demonstrating the extraordinary power of resistance enjoyed by the tuberculous virus against high temperatures and the effects of alcohol. In the October number of the same periodical there is a further communication from the same author, in conjunction with his deceased teacher, M. Parrot, detailing the results of experiments with salicylic acid, sulphate of quinine, corrosive sublimate, carbolic acid, creasote, bromine solution, and oxygenated water. The plan adopted was to take a portion of the tuberculous viscera of an animal that had just died of tuberculosis, and place it in the solution to be tried. After it had been left a varying length of time in such solution, inoculation-experiments in fresh animals were made, to see if it would induce tuberculosis. The solutions used varied in strength from one in 5,000 to one in 500, and it may be said that none of the above reagents succeeded in destroying the infective property of the tuberculous material with anything approaching constancy. The authors conclude their paper with the following practical remarks: "It is thus clearly proved that the vitality of the tuberculous virus is considerable. In therapeutic doses the antiseptic agents actually in use are powerless to destroy it, and the daily failures in practice seem, so to speak, borne out by what has already been shown. Again, it is perfectly clear from our experiments that the antiseptics in daily use are powerless against it. We wash instruments in alcohol or in a solution of carbolic acid (1 or, at most, 2 per cent.); we moisten the walls or the floors of our hospitals with the same solution; and are quite willing to believe that, in consequence of this, all germs, including those of tuberculosis, are rendered inert. It is easy to understand that such an illusion may bring about grave consequences. Even the sulphurous vapors advised by M. Vallin, even the vapor of bromine, which is still more caustic, can only act when tolerably concentrated and after some length of time, and in this case their employment becomes dangerous and difficult. The only agent which

germs, be they what they may, cannot resist for a single moment, is *fire*. Now, we know that at 100° the tubercle loses its infectious property in a very little while; and a temperature, even dry, of 120° to 125° destroys this power almost instantly. We must conclude that a heated stove is the only certain and practical purifier of instruments for surgical or experimental operations, for clothing, linen, and dressings; in short, for all objects whose shape and size admit of their being introduced into it. As regards the walls, floors, etc., of private rooms or hospital wards, it would be possible, it seems to us, from time to time, to submit them to the action of a current of air heated to about 125°, which, being brought by means of suitable portable tubes, and distributed just as one directs a jet of water from a pump, would dry and calcine the infectious germs hanging about the plaster, pictures, or woodwork, without sensibly damaging them." Such are the precautionary hygienic measures the authors recommend for adoption against the contagion of tuberculosis.

The Treatment of Acute Nephritis.

The *Lancet*, December 29, 1883, says:

There are few diseases which give rise to more anxiety in their treatment than those in which the kidney is concerned. With regard to both the precise pathology of renal inflammation and the therapeutics of this disease, much unquestionably remains to be determined. True, there are well-recognized principles to be followed in practice—namely, first, to give the inflamed organ rest, and therefore neither to irritate it by so-called diuretic remedies, nor embarrass its action by giving nitrogenous food; second, to see that the skin, which may be regarded as the *alter ego* of the kidney, is called into vicarious action. In spite of these guiding principles, however, acute renal inflammation remains often the despair of the physician. Dr. Aufrecht, of Magdeburg (*Berlin Klin. Wochensch..*, December 12), who, as is well known, has paid much attention to the pathology of nephritis, advocates most forcibly the adoption of an expectant line of treatment, in which dietetics play an important *rôle*. He absolutely discountenances the prescription of diuretic and diaphoretic drugs, and regards it as not good practice to encourage diaphoresis by hot baths or heated air. We go with him in his condemnation of diuretics, or of those salts which act notably on the kidney, and which we are persuaded are often given unnecessarily, and perhaps with injury; but in his objection to diaphoresis he seems on less secure ground. His plan consists in the administration of neutral salines, as bicarbonate of soda, which may be replaced by iron in the later stages, when the anæmia evoked by the albuminuria appears. The diet at first must, he says, be wholly vegetable, in the form of vegetable soups, and starchy and saccharine foods; even milk is to be avoided till after the first or the second week of the acute attack. This rigid regimen is necessary to diminish the special function of the kidney—elimination of nitrogenous matters. He quotes Lichtheim and Senator in support of this doctrine, which recognizes in the defective elimination of the kidney a much graver incident than the outpouring of albumen, and which, therefore, emphasizes the necessity of reducing to a minimum the ingestion of proteids. Aufrecht details one case (of scarlatinal nephritis) where suppression of urine lasted for eighty hours, and where this expectant treatment was followed by recovery. He mentions another, where the anuria lasted for fourteen hours; and he asserts that under the diuretic and diaphoretic plan of treatment cases such as these would almost certainly have succumbed. To avoid misconception, we should add that he prescribes a warm bath occasionally in such cases, but never to the extent of inducing profuse diaphoresis, and that he makes no mention of free purgation. Probably he would discountenance this, as another measure of harmful interference.

Creasote in Diseases of Air Passages.

Dr. Pick, of Coblenz, says (*Deutsche Med. Wochensch.*, 1883, No. 13), that the action of creasote in consumption, recently much extolled by the French (Bouchart and Gimbert), as well as the successful experiments of Fräntzel and Curschmann, induced him to employ this much discredited remedy in a series of cases, and to make a summary of the results. Creasote was given by the author both internally and externally. For external use he employed a mask which, being a modification of Hausmann's apparatus, could be worn by the patients without much difficulty, and even during the night. The creasote was dropped on the cotton-wool in the mouthpiece, and was inhaled by means of deep inspiration. The apparatus has the advantage over Hausmann's that the nose remains free, and the troublesome irritation of the nasal mucous membrane is avoided. Dr. Pick gave the creasote internally either with cod-liver oil, or according to the French formula: Kreasoti 13.00, tinct. gent. 30.00, spirit. vini rectif. ad 250, vini Malag. ad 1,000. The drug was well borne by the patients both internally and in the form of inhalation, and Dr. Pick speaks of one case where there was a decided antipathy to cod-liver oil, but where it was taken quite well in the above-mentioned combination. Gastric disturbances or toxic effects were seldom perceived. Among the cases treated by the author was one of croupous pneumonia passing into gangrene, thirteen of tuberculous infiltration in persons with hereditary taint, and one of sudden hæmoptysis after long-standing catarrh of the lung. The results were very good in all sixteen cases; after a short use of the drug, diminution of the cough, considerable reduction of temperature, improvement of the general health, and decrease in the expectoration quickly ensued; and the hæmoptysis mentioned above, which had not yielded to a fourteen days' treatment with ergotin, was speedily checked by a few hours' inhalation of creasote. This may, perhaps, be attributed to the styptic action of the creasote, which, besides its disinfecting and antipyretic properties, coagulates albumen and contracts the capillaries. A lasting effect was, however, observed to follow the employment of creasote only in catarrh of the apex, or in commencing infiltration. In advanced phthisis, where extensive disintegration of tissue with great diminution of strength was already

present, the only lasting result was the alleviation of isolated symptoms. Dr. Pick lays particular stress on the quality of the creasote, and attributes its actions only to that got from beech-wood tar, in contradistinction to the kind more frequent in commerce, obtained from coal-tar, whose qualities, so far from being useful, only set up gastric disturbance.

Thirteen Cases of Herniotomy for Strangulated Hernia.

Before the Medical Society of London (*Brit. Med. Jour.*, December 15, 1883), Mr. Keetley read a paper on this subject. Of these cases five were femoral, seven inguinal, and one umbilical; three died. Of course, such small numbers were of no value statistically. For example, at St. Bartholomew's, in 1876, only two cases of inguinal herniotomy died out of ten, while, the very next year, six died out of seven. After discussing the probable cause of death in his two fatal cases, which he attributed in one case at least to septic infection, the author said that, with one exception, the chief indications of practice of antiseptic ovariotomists should be borne in mind by the herniotomists. The exception was the rule, that, in cases of extravasation of blood or other fluid, the abdominal cavity should be thoroughly sponged out, and rendered aseptic. It was absolutely essential that, in herniotomy, all extravasation into, or septic contamination of, the peritoneal cavity should be prevented. To attain this end, he advocated the practice now coming into vogue, both on the Continent and in this country, but especially in Liverpool, of tying the neck of the sac high up as soon as the strangulated bowel, etc., has been reduced. Thus the whole operation-wound, including even the notch in the edge of the femoral inguinal ring, would be entirely cut off from the peritoneal cavity. However, sometimes after cutting the constricting edge, the surgeon found it a work of difficulty and slowness to reduce the swollen intestines. In the meantime, hemorrhage was very likely taking place into the peritoneal cavity. Within certain limits, strict antiseptic precautions made this a matter of indifference. Beyond these limits, it might become a serious matter. Hence, in such cases, Mr. Keetley suggested a second incision of the linea alba into the peritoneal cavity, just above the pubes, merely large enough to admit two fingers, with the help of which the intestine, etc., could be pulled back into the abdomen. When the hernia was known to be quite recent, it would be justifiable to attempt to reduce it by this proceeding alone, with an incision over the hernial aperture. It was so much more rational to attempt to pull back than to push back a soft and flexible loop through a tightly constricting hole. The same principle had long ago been applied to umbilical herniæ by Crompton, of Birmingham, and more recently and successfully by Annandale and Bennett May. But Mr. Keetley had conceived the idea quite independently, and without at the time knowing of these cases. He had not yet himself met with a case in his judgment demanding an application of this plan of a suprapubic incision. He had done Crompton's operation in the case of umbilical hernia which died.

Reviews and Book Notices.

Book Notices.

The Field of Disease. A Book of Preventive Medicine. By Benjamin W. Richardson, M. D., F. R. S., etc., Philadelphia: H. C. Lea's Son & Co., 1884. Cloth 8vo., pp. 734.

With his accustomed erudition, and in his wonted easy style, Dr. Richardson has here presented the doctrines of the etiology and prophylaxis of disease as he understands them. He is, as always, full of instruction, and his exposition has no lack of clearness, but, as always, he is the very earnest advocate of his personal opinions, which are often either in antagonism to those of most members of his profession, or are as yet too slightly supported by evidence to justify any such positive statement. To begin with, his averment (which is quoted with applause by his American publisher in a prefatory note), that the idea that diseases can be prevented is of modern times, and "practically of the later two-thirds of the present century," could be made only by one who is ignorant of the History of Medicine. Our modern methods of prevention are many of them new, but enlightened physicians in all ages have earnestly preached both personal and general prophylaxis.

Again, Dr. Richardson's indiscriminate attacks on all acoholic beverages are so far from being tempered with the moderation of science, that they cast general doubt on the power he has of framing an unbiased judgment.

The plan of the volume is as follows; it is divided into three parts: The first treats of general diseases, local diseases, and djseases from natural accidents. In this part the diseases are classified according to the accepted English nomenclature. The second part or book treats of acquired diseases, which are divided into those from poisons, from physical agencies, and from mental agencies. The third and last book is a summary of the origins, causes and preventions of disease. This is the most interesting part of the treatise, and is that to which the reader will turn first, in order to gain as quickly as possible the views of the author. It contains a vast amount of solid, valuable hygienic information.

In England, this work was published with a preface recommending it to the non-medical public. It is, we think, much too technical for their use, and is better suited to the physician's office than the family library.

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THE ORIGIN OF THE LATE CHOLERA EPIDEMIC.

Dr. W. G. Hunter, retired Surgeon General of the Indian Army, delivered an address recently before the epidemiological Society, in London, on the recent epidemic of cholera in Egypt, which contains some exceedingly valuable points and much instruction. As we are ready to believe, his arguments all plead strongly for cleanliness as our most available and effective prophylactic against the invasion of cholera.

He very convincingly states that the disease was not carried into Egypt from without, but that, owing to the wretchedly unsanitary condition of the people of Egypt, the disease is more or less prevalent all the time, and on account of unusually unhealthy surroundings during last summer, it increased so much in violence and in number of cases as to constitute a most terrible and fatal epidemic. To give some idea of the filthy condition of this historic old country, we will make some extracts from his address:

"The larger majority of the people drink the water unfiltered, and generally before it has been allowed time to deposit. It is said that they prefer it in this condition. In Cairo the quality of the water supply is indifferent. At the waterworks there is but one settling tank, and, as it is in constant use, it can never be cleaned.

"The large amount of mineral matter contained in Nile water, while settling, carries down with it no inconsiderable quantity of the organic substances held in suspension in the water, and must lead to rapid fouling of the tank. Filtration is effected by gravel and sand. In the Ismailia quarter, that is, the fashionable part of the city, and in the Boulac quarter also, no attempt is made to filter the water, but it is supplied as obtained from the Nile. Close to the intakes of the Cairo water-works, where some slight efforts, it is presumed, would be made to prevent pollution of the water, I have seen human and other animal excreta, fresh and stale, lying about in various directions, and men and women bathing, and washing their soiled clothes in the river. This was by no means an uncommon sight.

"In Alexandria, an attempt has been made to establish a sewerage system, but, as in most things Egyptian, a very defective one. In the first place, it is but partial; in the second, it possesses radical defects of construction, and the outlets, some twelve or more in number, pour their contents on

to the beach directly to windward of the city. The sewers are, moreover, unventilated, such ventilators as existed having been sealed up about five years previous to my visit in August last. The privies of the houses are in direct communication with the sewers.

"As a specimen of the quality of the water used by the villagers in Egypt, I would, in passing, call attention to a report made to me by Mr. Honman, one of the twelve medical gentlemen sent to Egypt by Her Majesty's Government for service during the epidemic. This gentleman was in charge of Mehallet-el-Kibir, a town of about 28,000 inhabitants, situated to the north of Tanta, midway between the Rosetta and Damietta branches of the river. Mr. Honman states in his letter, dated August 30, 1883: 'The town has three mosques; the drain from one running through the town, quite open, and with three feet of filth at the bottom. This discharges itself into a pool of water at the back of the town, which is used by the people for domestic purposes, and as drinking-water for their cattle. The other two mosques drain in a like manner into pools outside the town, and they also are used by cattle and for domestic purposes. The stench from these drains can be smelt all over the town.'

"During the past year the water-ways were more than ordinarily polluted by carcasses of cattle which had died from typhus being thrown into them, in order to evade a tax of five francs per head for their burial, which the poverty-stricken fellaheen were quite unequal to pay. It is notorious that many of the fellaheen were reduced to such straits as to be forced to feed on the carcasses of cattle which had died in this way. The number of carcasses and portions of carcasses in a far advanced state of decomposition removed from the Damietta branch of the river amounted to upwards of 1,500, a number considerable in itself, but insignificant as compared with the thousands which must have been thrown into the river. The losses in cattle occasioned by the 'epizootic' weighed heavily on the fellaheen, and reduced them to strange and curious expedients to till the soil.

"The villages are collections of mud-hovels, in which, with the human family, reside all their domestic animals, as pigeons, fowls, asses, goats, and perhaps a camel. In no towns, so far as I know, are there public latrines, except those belonging to the mosques, which are quite inadequate to meet the wants of the people, who are driven to the streets, gullies, and open spaces for natural purposes. This remark applies equally to cities like Cairo and Alexandria."

These extracts are sufficient to demonstrate the terribly unsanitary conditions that surround the people of Egypt, while Dr. Hunter's thoughtful and logical address will make any unprejudiced man believe that filth is the etiological factor of cholera. From it we must derive the valuable lesson, that in cholera as in all other epidemic diseases, our great safeguard lies in scrupulous cleanliness, both of person and surroundings.

FACTORS DECIDING THE SEX OF THE OFFSPRING.

Many a theory has been proposed—and exploded—concerning the conditions which decide the sex in the offspring. Those interested in the raising of horses, cattle, pigs, etc., have doubtless made a more practical progress in this question than physicians have done with regard to the human being. It is not rare to notice that a sheep-grower, for instance, will raise only ewes, if it is his intention to do so.

Recently, Dr. K. Düsing has studied the factors deciding the sex of the fœtus, and published (Centrlbl. f. d. Med. Wiss. 45, 1883,) an interesting article concerning his results; and as the subject has an undoubted vital bearing upon the propagation of the human race, we will not withhold it from our readers.

Fiquet made first the observation on cattle, that those animals that sexually were very much occupied, produced more individuals of their own sex, and D. explains this by saying that the male whose genital apparatus is frequently used, is provided with fresher sperma, so that fecundation ensues with comparatively young and active spermatozoa. In such a case more male offspring are produced; while a male whose sexual organs rarely perform their function, will give rise to more female offspring, because his spermatozoa are older, weaker. In the female the same holds good, the ova being earlier (fresher) fecundated, and a predisposition to the female sex takes place. As a natural consequence, it follows that the more there is a want of individuals of one sex, the more their sexual functions are required—the quicker, the younger their sexual product is

made use of—the more members of that sex will be born. It is simply the law of nature to propagate the species.

The same effect as sexual over-exertion is also produced by deficient nutrition, if the same demands are made upon the genital apparatus. Weak bulls paired with vigorous cows produced invariably male calves, while weak cows paired with vigorous bulls gave mainly birth to female calves (Tellari and Fiquet).

Next of importance is the age. At the time of the greatest sexual power, the individual of each sex never transfers his (or her) sex to that of his (or her) offspring, or does at least much less so: in most human families there are then found the most boys if the husband is much older than the wife. (Hofacker, Sadler.) It shows the intention of nature to produce more individuals of that sex which threatens to die out; the weaker, the older the propagator, the more care nature takes to have his sex propagated.

Thus far the influences concerned one sex. In case the disturbances of nutrition affect both parties the rule holds good, that where there is a superfluity of nutrition the reproduction is stronger, where a want, it is weaker. The genital system is first influenced by nutrition. (Darwin.) But it is especially the female who is more dependent upon nutrition, probably because she has to care for the bringing-up of the offspring. The logical conclusion is, that in case of superfluity of nutrition more females are born, in case of want, more males. Thus Ploss found that in the same ratio as the price of provisions advanced, the number of male children increased. (Or may not the cause be the following? It is the male that has to work hard; it is the male that suffers soonest by bad nutrition; the male, therefore, becomes soonest the weaker; therefore the result.

Landvis procured from thousands of very young caterpillars of vanessa urticæ, males or females, whatever he preferred, by nourishing them either badly or well. In some of the lower animals, the females find their nourishment mainly in summer, the males in winter. In these more females are born in summer, the males in winter.

D. draws from these observations the conclusions: the sexual relation regulates itself by the property of animals and plants to produce that sex in greater numbers whose relatively greater augmentation is profitable for the propagation of the species. Even an anomalous sexual relation may benefit under special circumstances the propagation. The sexual difference may rest in the unimpregnated ovum (for instance, tendency of young ova to female sex), or the sex is determined at fecundation (young spermatozoa, males), or the nutrition (strength, age, food) decides.

Although these theories find an undeniable proof in observations and experiments made on animals (and some on human beings also), we have to be very cautious in admitting their truth. Other factors, at present unknown, probably determine, besides those mentioned, the sex of the fœtus; it is even doubtful whether the latter is already definitely decided at fecundation, and whether later influences may not have their share in ordaining the sex.

DANGER FROM QUININE.

Our exchanges have considerable to say just at present about the dangers that may exist in the administration of quinine, and the injurious results that sometimes follow its use.

While it is well to utter words of caution, yet it seems almost like waste of time to caution physicians that quinine may be, in certain cases and under certain circumstances, a dangerous article; for we take it that every ordinarily well-informed medical man is thoroughly aware of this fact.

We know that quinine is one of the most valuable drugs in our possession when properly and intelligently used; and we also know that it is no exception to the rule, which holds good with all drugs, that if used when not indicated, or in a wrong way, it is capable of working harm.

If, for instance, we desire to give quinine for its tonic effects only, and we order five or ten grains thrice daily, we will do more harm than good; while, on the other hand, if we endeavor to control a well-marked intermittent fever with one or two grains, our experience will be similar to that

of the man who endeavored to extinguish a burning factory with a small syringeful of water.

In a word, the indications for the use of quinine would seem to be about as follows: For intermittent and remittent fever (where we use it as a specific), we must give it in large doses an hour or two before the expected paroxysms, and in smaller doses during the intervals, until we have controlled the morbid process, or until symptoms of cinchonism supervene, when its use must be intermitted.

To reduce temperature in continued fever, it would seem best to give it in large and decided doses (10 to 20 grains) and to be guided in its repetition by the effect produced. To obtain its tonic properties, we should use it in small doses (1 or 2 grains thrice daily), and continue its use until cinchonism calls for a halt.

Thus, then, with quinine, as with opium, while valuable beyond all calculation in our warfare with disease, we must be careful to intelligently and clearly understand what we wish to accomplish from its use, else we may not only do no good, but actually do harm.

OUR SELF-SUFFICIENT EGOTISM.

It seems hard to find words sufficiently emphatic to characterize the—what shall we call it?—egotism, or blindness, or obstinacy of those who control the affairs of cities. Our outburst of indignation is caused by reflection upon the methods of supplying water to and removing refuse from our large cities.

In the matter of water supply and sewerage, our large American cities are in a condition of *barbarism*.

The experience of all time and of all peoples clearly proves to us that our methods have no elements of correctness about them; and yet, like poor, blind fools, we allow ourselves to be treated so shamefully that the condition of the wandering savage presents a sanitary elysium in comparison with our hygienically besotted condition. Can we not force ourselves to sink our egotism in the ocean of experience, and profit by the history of the world, in these two prime questions of water supply and sewerage?

THE BITE OF AN EPILEPTIC.

In England, recently, a young man was bitten in the hand by a woman who had fallen in an epileptic fit. Three days afterwards he died, and the neighborhood became greatly excited over the occurrence.

This case only tends to add additional testimony to the fact that the public love sensations.

This death may have been merely a coincidence, or again, a bite from any person or any animal will occasionally, or we should rather say, *might* occasionally, set up a degree of inflammation in an already depraved or weakened constitution, that might prove fatal.

But to suppose that the bite of an epileptic is any more serious, simply because it is inflicted by an epileptic, than would be a similar wound received from any other person, is certainly unreasonable and not to be entertained in the pathological light of to-day.

NOTES AND COMMENTS.

Exercise in the Treatment of Non-United Fractures.

These cases of non-union will oftentimes prove exceedingly annoying, hence the expedient which has proved entirely successful in the hands of Dr. G. W. Nesbitt (*Jour. Am. Med. Ass.*, January 12, 1884,) is worthy of trial.

"July 25, having first applied a close-fitting elastic stocking to the limb, as far up as six inches above the knee, I then made extension, till the fragments were brought as nearly as possible into apposition, and applied broad strips of a firm woollen blanket lengthwise of the thigh, and extending below the knee, and above the trochanter major and the tuberosity of the ischium. These strips completely surrounded the thigh, and were held in place by a roller bandage of the same material, applied firmly from the condyles of the femur to the perineum and the tuberosity of the ischium. I next applied a roller of mosquito-net, then a coat of plaster-of-Paris; and while it was yet soft, I applied strips of wire gauze, extending the whole length of the thigh, and outside of this another covering of the mosquito net, which was again coated with plaster, wire gauze, and more netting, till a splint was formed at least half an inch in thickness, and extending the entire length of the thigh. I now reflected the ends of

the longitudinal strips of blanket stuff, which was first applied to the thigh, back over the outside of the splint, and secured it by a roller bandage of the mosquito net, extending from within half an inch of the lower border of the splint to within half an inch of its upper margin, and over this applied a thin coat of plaster, which in turn was covered by a muslin roller bandage, which gave it a finished appearance and completed the dressing.

"The cushion-like margins of the splint above and below, formed by the reflection of the lining of the splint, as it were, were not only neat, but comfortable and firm, while the whole splint fitted so closely from the perineum and tuberosity of the ischium above to the condyles of the femur below as to render shortening almost impossible after the plaster became hardened.

"Extension was kept up until the splint became firmly set, when the patient was allowed to get up and go about, bearing his weight upon the broken leg without the aid of canes or crutches, except when taking a long walk—as coming down town, a distance of nearly a mile—when he used one crutch, and sometimes a cane and a crutch. But he worked about home, sawing wood and doing chores about the house, without any artificial support most of the time.

"The first few days he complained of some soreness at the point of fracture, but not sufficient to discourage him in his efforts at independent locomotion.

"He was now really self-sustaining, and I left him to take care of himself till October 6, when I removed the plaster dressing, and found that a firm bony union had taken place, with the limb in good shape, and with less than three-fourths of an inch shortening. The man has since that time been employed as a house carpenter, also in putting up wind-mills. He walks without limping, does all kinds of heavy work, and climbs a ladder with as much agility as if nothing had ever happened him."

Nasal Stenosis a Cause of Nasal Catarrh.

We have already had occasion to refer to nasal stenosis as an etiological factor in nasal catarrh, and we are pleased to see that Dr. W. J. Walsham (*Lancet*, December 29, 1883,) adds his experience to the affirmative side. He says:

"Nasal stenosis as a cause of chronic nasal catarrh does not appear to have received the attention that it undoubtedly merits, and I believe it is not unfrequently overlooked. Many of the cases of so-called intractable nasal catarrh, strumous rhinitis, etc., I cannot but think depend, if not for their cause, at least for their continuance, upon some of the various forms of obstruction of the nasal cavities. During the last few years I have had under observation many such cases, and have found that after long periods of unsuccessful treatment, both local and constitutional, the symptoms have readily yielded on removing the source of obstruction.

"With regard to treatment, when the catarrh depends upon one of the forms of stenosis, it is, in my experience, useless to attempt to cure the disease without first removing the obstruction. In the case of a deflected septum this may usually be accomplished by forcible straightening, aided, if need be, by a stellar or other division of the cartilage.

"On the question of the treatment of general hypertrophy of the mucous membrane, it is not my intention to enter here. Posterior hypertrophy of the inferior turbinated bone may be removed by including the hypertrophied portion in the loop of a wire snare (that invented by Dr. Jarvis appears to answer very well), and slowly dividing the tissues included in the loop. General hypertrophy of the inferior or middle turbinated bone is best remedied by removing the whole bone, an operation attended with, as far as I have seen, neither danger nor inconvenience of any kind. The removal has been readily accomplished by means of a polypus forceps.

"Hypertrophy of the anterior end of the inferior turbinated bone may be removed by a wire snare, the parts having previously been transfixed with harelip pins. In one instance I succeeded in reducing the hypertrophy by means of frequent application of solid nitrate of silver. As a rule, however, the more radical method of procedure will, I think, be found necessary."

The Cold Douche in Maniacal Delirium.

When we remember that opiates sometimes prove very dangerous in this condition, it will be well received when we meet with safer therapeutic recommendations. Dr. Thomas Barlow (*Lancet*, January 5, 1884,) had very satisfactory results in a case of delirium tremens, from the cold douche:

"The patient was stripped, and a spongeful of cold water squeezed down his neck and back, and then freely splashed over his face and chest. It quieted him immediately. He said it was nice, and he was well pleased to have it repeated. He was then vigorously rubbed and dried, and some strong broth was given to him, which he thoroughly enjoyed. During the rubbing process he gave

one short, loose cough. The bed was soon made; there was not the slightest difficulty in getting the patient to lie down and close his eyes, and presently he dropped into a quiet sleep. We left his friends with the instruction that if he became violent again the same treatment was to be repeated, and that he was to have no physic, but only some egg and milk or broth whenever he should awake. His wife was also told by way of precaution that it was by no means infrequent in such cases (even when not treated by cold douche) to get pneumonia, and that therefore this was one of the things for which to be prepared. The patient slept quietly for four hours, then woke and was violent again. He was douched by the friends in the same way as before, and once more lay down and slept quietly. He had no delirium after this."

He subsequently had pneumonia, but recovered. Dr. B. attributes the good effects of the cold douche to nervous shock.

A Caution in Urinary Examinations.

As evidencing the necessity of great caution, and generally of more than one examination of the urine, before forming a positive opinion, the following case may be quoted from *Berlin. Klin. Woch.:*

Professor von Heusinger, in a recent session of the Aerztl. Verein in Marburg, declared that a certain individual desired to be examined in view of having his life insured. At the close of the physical examination, he was requested to urinate. As he had micturated before entering the doctor's office, he now could pass but a slight amount. The chemical examination gave a yellowish-green precipitate (saccharine). At the examiner's request, the man returned the next morning, and the urinary test presented a negative result. It turned out after a close questioning that the individual had suffered for months with gonorrhœa, and had used injections of sulphate of zinc. He had passed water and used this injection just previous to presenting himself for the first examination. Dr. Fettien, who was then consulted, found that if a solution of sulphate of copper is added to one of sulphate of zinc and tartaric acid and caustic soda in excess, a blue fluid is formed, which contains, besides the constituents of Fehling's solution, sulphate of zinc. Added to boiling urine, the zinc is precipitated as a hydrate with a greyish-green color, and the solution turns from blue to yellow. If albumen is added, the same phenomena are observed, only the fluid above the precipitated zinc is reddish.

Pilocarpine in Scarlet Fever.

Although the majority of new drugs that are being daily offered to the profession, are very soon proven to be worthless, we occasionally receive some really valuable addition to our therapeutic resources, and among them, pilocarpine holds a high place. In the *Glasgow Med. Jour.* for January, 1884, Dr. Frank Shearer reports a case of scarlet fever, followed by coma and convulsions, treated successfully with pilocarpine, in doses of one-thirteenth of a grain, hypodermically, and he says:

"Therapeutically considered, it is very interesting to find that when venesection to a very fair amount had failed, the pilocarpine first showed its marked physiological effects, and then stopped the fits, and that after such a lapse of time as quite to put it beyond all reasonable doubt that the venesection had very little to do with the successful result. Indirectly, perhaps, it aided it, as did also the application of the hot pack, which was kept up very industriously; yet both of these methods of treatment were in operation for upwards of one hour and a half without in the least modifying the fits.

"The case is one of those which cheers the physician on his way, and bids him hope and act, however hopeless and desperate the conditions with which he has to contend may be."

Inhalations of Oxygen.

As a means of stimulating retarded tissue metamorphosis, inhalations of oxygen promise much. The *Deutsche Med. Wochensch.*, of October 10, contains the substance of a lecture given by Dr. Kirnberger in the Medical Society at Mayence, on the treatment of leukæmia and pseudo-leukæmia, in which he suggests the inhalation of oxygen as a means of obviating the retarded tissue-metamorphosis which is characteristic of this disease. He cites a case in which he employed this treatment with good results—the patient, a boy aged 10½, who had been treated with iron, arsenic, and quinine, without any benefit, improving greatly and finally becoming cured after the inhalation of oxygen, combined with arsenic internally. The boy had reached a condition of extreme weakness, being entirely confined to bed, with loss of appetite and tendency to vomiting; the spleen considerably enlarged, and the white and red blood-corpuscles in the proportion of 1 to 90. The treatment began in December, 1882, and after a daily inhalation of about 30 litres, the boy could leave his bed in ten days, and could go to school about the end of February. Some variations in

his condition occurred from time to time; but about the middle of September the author considered him to be definitely cured, the number of red corpuscles having returned to the normal.

Treatment of Varicose Veins.

This neat and simple operation is described in a contemporary by Mr. Folker, who has found it very satisfactory. A small incision was made on each side of the vein; and a curved needle, passing in at one incision and out at the other, carried the ligature under the vein, and was withdrawn. A flat instrument was now, in the same manner, passed in at one and out at the other incision, and threaded with one end of the ligature, which then, by its withdrawal, passed the ligature over the vein. The two ends of the ligature, which now surrounded the vein, projected through one opening. This was repeated in as many places as might require it, and then the lowest one was tied first, and the ligature cut off close; firm pressure was made over it just to press out any drop of blood that might be present, and the little opening was closed with collodion. Each ligature, from below upwards, was tied in a similar way, pressing the blood out of the vein up to each ligature before tying it. The ligature used in the present case was pure silk, well carbolized; but Mr. Folker hoped to tie some with tendon-ligatures, which would become thoroughly absorbed sooner than the silk.

More About Jequirity.

Dr. Hotz thus sums up his experience of 65 cases in the *Chicago Med. Jour. and Ex.*, February 1884:

1. Jequirity is the best known remedy for chronic granular conjunctivitis.

2. It is the most effective remedy for the clearing of trachomatous pannus, and in inveterate forms of pannus it is preferable to peritomy, as well as to the inoculation of blenorrhœal virus, because it does its work quicker than the operation, and safer than the inoculation.

3. It has no injurious effect upon the eye, and can be used with perfect safety even when the cornea is ulcerated.

4. But it should not be used while the cornea and conjunctiva are acutely inflamed.

5. It does not benefit those cases of chronic conjunctivitis in which the symptoms of catarrh (increased secretion, succulence of the retro-tarsal folds, etc.,) predominate over those of trachoma (enlarged papillæ, and lymph follicles, plastic infiltration of tarsal conjunctiva).

6. The most violent attacks of jequirity ophthalmia accomplish the speediest cures of granulated eyelids, and the quickest clearing up of the vascular cornea.

Unsuspected Albuminuria.

We have taken occasion recently to refer to this subject, and our remarks receive additional import from the following case reported by Dr. McKew in the *Maryland Med. Jour.*, January 12, 1884:

A boy, æt. 15, presented himself suffering with severe headache; he was otherwise apparently perfectly well. Examination of the urine revealed exceedingly delicate traces of albumen, amounting to merely a slight opalescence. The microscope revealed casts. A cautious opinion was given. The disease has advanced rapidly, until now the patient is dying of bronchial effusion. There is no assignable cause for the albuminuria in this case. At 3 the patient had scarlet fever, and one and a half years ago he had typhoid fever. He has had nystagmus for some years. The urine now contains fifty per cent. of albumen. The case teaches the importance of examining the urine whenever the cause of disease cannot elsewhere be found.

Conservative Treatment of Compound Fractures.

By resection of the injured ends of the bones and wiring together of the fragments very good results have been obtained in cases where amputation would have been formerly considered to be indicated. For instance, in the *Brit. Med. Jour.*, January 5, 1884, Mr. Wright relates a case of resection of the humerus and wiring in a recent compound fracture. There was a large lacerated wound nearly severing the arm, but leaving the skin, vessels, and nerves on the inner side intact. The periosteum was torn off a part of the humerus, the forearm was also fractured. The base-ends of the humerus were removed, and two silver sutures inserted. Good union and a nearly perfect limb resulted.

Eucalyptus in Pulmonary Gangrene.

Extreme fœtidity of breath, cough, dyspnœa, and fever, with dullness in a definite location, tubular respiration and crepitant râles, and black and very offensive sputa, caused Dr. Bonamy (*Le Courier Med.*,) to diagnose pulmonary gangrene. The patient was first put upon a mixture containing carbolic acid, but no improvement following, this was replaced by tincture of eucalyptus. In

two days after the last prescription, the odor of the breath was much less offensive, and in less than two weeks the patient was cured.

Death from Gluttony.

Two cases are reported in an exchange. The first is that of a railway clerk, who appeared well when he went to bed on Christmas night, but died before morning. The medical man who examined the body found the stomach largely distended with undigested food, which had stopped the action of the heart. The other case was that of a negro from Sierra Leone, in whose stomach whole potatoes were found.

CORRESPONDENCE.

Duty of Professional Secrecy.

EDS. MED. AND SURG. REPORTER:—

I take the following extract from my note-book: "March 21, 1882. This afternoon a man came into my office, and, after asking me if I were a surgeon and for a private interview, told me that he wanted to get three bullets extracted, one from his arm, one from his leg, and one from his back."

The manner and conversation of this man left no reasonable doubt in my mind that he was a rogue trying to escape from the penalty of violated law. He left my office, and I heard no more of him from that day to this.

I give these few points in the above case in order to ask my professional brethren what is the duty of a physician in this case, or such cases, to the public. Is the physician under obligation of secrecy to his patient, or is he under obligation to the public to catch, or help catch, the rogue? How far will his obligation of secrecy protect him from being charged with being a party to the crime? Will a patient's non-payment of fees release a physician from his obligation of secrecy?

H. NYE, M. D.

Enon Valley, Pa., Feb. 11, 1884.

[(1) We would suggest that the non-payment of a fee does not release the physician. Two wrongs do not make one right. (2) His obligations to society are such that a physician should render all the aid possible in bringing a criminal to justice, but he should not act on mere suspicion. He should have ample and solid grounds for action before his professional obligations to secrecy are excused.—EDS. REPORTER.]

The Ethics of Consultations.

EDS. MED. AND SURG. REPORTER:—

So much has been said within the last two years in regard to ethics and consultations that it would seem that all the points in controversy ought to have been settled; but nothing that I have read covers the case I have in view, and what I state is with the object to receive information.

To illustrate my point: Last summer, in a conversation with Prof. R——, of Hamilton, Ohio, he said: "I would like to meet my competitor, Prof. W—— (who is a homœopath) in consultation; he is a worthy gentleman and a skillful physician; but it would not be consistent in me as a teacher in the regular school, and as a member of the medical societies representing progressive medicine."

I thought to myself, Prof. R—— has a higher aim than the consideration of dollars and cents.

Now the opposite of Prof. R—— is Dr. V——, of this county, who is regarded as the leading surgeon of this section, and a member of the State Medical Society, who counsels with a "physio-medical" doctor upon all occasions. The physio-medical *genus* is a *rare* specimen of the *genus homo*, and perhaps you do not know him by personal contact in the East, as he is *indigenous* to the country west of the Ohio river.

Now, how can a doctor be a member of the "State Medical Society" and consult with a doctor of the above class? Information respectfully solicited.

B. F. ZELLER, M. D.

Brock, Ohio, January 2, 1884.

[We confess to some uncertainty as to what a "physio-medical doctor" may be, but we do acknowledge to a clear conviction that neither the profession nor the public can gain by consultations with men who practice medicine under the avowed influence of prejudice and dogma, who reject well-established means of diagnosis, who deny the utility of pathology, and who discard well-tried remedies merely because they are "mineral" or "poisonous." It is a mere sham to pretend to consult with such men.—EDS. REPORTER.]

A Criticism Corrected.

EDS. MED. AND SURG. REPORTER:—

I have no desire to enter into a controversy with Dr. Guild concerning the case reported by me for your magazine some weeks ago. His communication, however, contains so much that is unfair and *misapropos* that I cannot, in justice to the gentleman who attended Dr. A., or myself, allow the criticism to go unquestioned.

Dr. G. has evidently been laboring under the impression that I attended the case; this is a mistake, as a more careful reading of the article would have shown. I state distinctly that "I am indebted to the attending physician, Dr. J. J. Ward, for the notes," and so far as the death certificate was concerned, instead of "demurring," as Dr. G. says he did, he made it out "apoplexy" himself. Whether this was correct or not, I am sure I cannot say, but it seems to me, that to have headed the article "A Case of Possible Apoplectic Coma" would have been just as nearly incorrect—if I was incorrect—as the other. I have never know before that "errors in diagnosis" could be committed where no diagnosis was made. There certainly was no conclusion arrived at in the article. The word "possible" is used in the heading. In one place I say, "a satisfactory diagnosis was not made;" in another, "we confess that the complexus of symptoms here present puzzle us," and finally, that "we are *inclined* toward the diagnosis of death from heart failure, caused by chloric ether." I submit, that though here and throughout the whole article there is plenty of room for difference of opinion, yet I can hardly be accused

of "errors in diagnosis." Why the allusion to "heart failure" was made is briefly this: Chloroform by the mouth produces, according to Bartholow, "stupor and insensibility," it also increases the "action of the arterial system." Now, if "over stimulation produces exhaustion," why is it so extremely unreasonable to suppose that the poison produced the coma and other symptoms referable to the nervous system, and that when he had partially recovered from its effects, sudden exertion, sitting up in bed, vomiting, etc., produced failure of an organ not as strong as it once was and now weakned still more by over-stimulation? Far be it from me to aver with any degree of certainty that such was the case. I have learned, however, to be very cautious about using the word "never" in matters pertaining to medicine.

In regard to therapeusis, I have but to say that when Dr. Guild will point out the passage wherein it is stated that alcoholics were administered, I will discuss with him the advisability of so doing. It is indeed stated that stimulants were "pushed," and so indeed they were, as much as it was possible under the circumstances; but the "stimulants" were carbonate of ammonia and digitalis. It is of course not to be supposed that Dr. Guild knew this, but he certainly knew that there were other stimulants beside alcoholics, and that no mention of the latter is made in the article which he criticised. And I may here say that not only in this connection has he misrepresented me, but he does likewise in his brief epitome of the case at the beginning of his article. Any physician who will take the trouble to read my communication carefully, cannot fail to be impressed with these two facts, and such will see the injustice of Dr. G.'s arraignment.

I close here by expressing the hope that any physician who has had opportunities for examining any cases such as the late Dr. A.'s was, will publish his conclusions. S. M. Ward, M. D.

Ellenville, N. Y.

Metrical Anatomy of the Eyes and Orbits.

Eds. Med. and Surg. Reporter:—

The depth of the orbits from the supra-orbital foramen to the optic foramen is 5 centimeters, and the lateral diameters at base 4 centimeters. The supra-orbital foramen is 4 centimeters from the outer part of the sphenoid fissure, and from the margin of the orbits (externally) to the nearest point of the sphenoid fissure is 32 mm., this being the nearest distance to the brain. From margin of orbits (at lachrymal canal) to the optical foramen is 45 mm. From outer and lower margin of the orbits to the nearest point of spheno-maxillary fissure is 15 to 18 mm. 4 or 5 mm. below the margin of the orbits is the infra-orbital foramen. The depth of this canal is 17 mm. The anterior ethmoid foramen is 33 mm., and the post ethmoid foramen 39 mm., within the margin of the orbits, measuring from the lachrymal canal. The lachrymal canal is 2 to 3 mm. within margin of the orbits, and is 4 mm. in diameter. The nasal duct "is $\frac{3}{4}$ inch" in length. The diameter of the optic foramen is 3 to 4 mm. About 3 mm. "external to the lachrymal canal at inner and forepart of orbital surface of maxillary bone is the depression for attachment of inferior, oblique, and lachrymal tubercle." The tendo oculi two lines in length and one in breadth, is attached to the maxillary bone 5 mm. above the lachrymal canal. The pulley of superior oblique is 13 mm. above the lachrymal canal; arising "about a line above the inner margin of the optic foramen," it is inserted into the sclerotic *midway* between the cornea and entrance of the optic nerve. The tensor tarsi is 3 lines in breadth and 6 in length. The recti muscles are inserted into the sclerotic, 3 lines from the margin of the cornea. The diameter of the pupil varies from 1 to 8 mm., according to its dilatation or contraction.

* * * * * * *

A knowledge of the depth and metric relations of the orbits is useful to the surgeon in performance of the operation of enucleation of the eyeball, and probing, etc. No instrument should be introduced beyond 32 mm. from the outer margin of the orbits, nor in no case should they go beyond 45 mm. The lachrymal tubercle serves as a guide to the surgeon in the operation for fistula lachrymalis—a knowledge of the size of this canal is useful in applying instruments to it. If a vertical line is drawn across the base of the orbit, the degree of divergence or convergence of the pupil can be metrically expressed.

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John M. White, M. D.

Pleasant Ridge, Ala.

News and Miscellany.

Ohio State Sanitary Association.

The first annual convention of the Ohio State Sanitary Association met at Columbus on the morning of the 14th inst. Dr. William M. Beach, of London, was unanimously elected temporary chairman, and accepted with a short speech. The high waters detained many, but before evening adjournment the room was comfortably filled with physicians and scientific men from all over the State.

Rev. Dr. W. E. Moore of Second Presbyterian Church prayed, and Dr. R. Harvey Reed, of Mansfield, was chosen temporary secretary.

Dr. C. M. Finch, President of the Board of Education of Portsmouth, who was to plead for a State Board of Health, was not present—probably detained by the floods.

In accordance with arrangements, Dr. Baldwin delivered an address of welcome, in which he referred to the sad effects of the sewerage system of this State upon the public health, and set forth a number of important topics which he deemed of importance, and which he thought should receive the attention of the student of sanitary science.

The response to Dr. Baldwin's address was made by Mr. John Simpson, Ph. D., superintendent of the Mansfield public schools. He advocated a more thorough and general education in sanitary science, believing that a more wide-spread knowledge of hygiene would have a wholesome effect on the public health, and would prevent many of the common abuses. "Were a sound body the rule instead of the exception," he said, "the condition of the race would be materially improved in this age of stupendous progress."

The Chair, at the close of the address, ap-

pointed the following committee on permanent organization: Drs. J. F. Baldwin, Columbus: X. C. Scott, Cleveland; E. H. Hyatt, Delaware; G. S. Franklin, Chillicothe; C. A. Lee Reed, Hamilton.

Dr. Beach, of London, the temporary chairman, read an interesting paper on the "Importance of Sanitation." The production displayed a very intimate acquaintance with the history of sanitary science. It reviewed at considerable length the history of the plagues that swept over Europe during the middle ages, giving a general idea of their severity, and some of the mediums by which pestilence is spread. Dr. Beach is not in favor of fumigating bedding and other clothes after the poison of pestilence has once been retained in them, but thinks that the physician should enforce positive sanitary precautions by having the articles burned. The history of the custom of quarantining against the epidemics of cholera and yellow fever was run over, and the doctor expressed himself as in favor of it. The paper closed with an eloquent peroration.

A letter was read from Dr. James E. Reeves, of Wheeling, secretary of the West Virginia Board of Health, who was expected to address the present convention, cancelling the engagement, as he was needed at home to help take care of the people rendered destitute by the flood.

Dr. G. S. Franklin, of Chillicothe, read a voluntary paper on the effect of slaughter-houses upon public health, in which he expressed himself as in favor of placing the control of all such institutions in the hands of boards of health.

The association then adjourned until 2.30 p. m.

The first thing on the programme for the afternoon was a paper on "Drainage and Water Supply," by Professor E. H. Hyatt, M. D., of Delaware. Dr. Hyatt, however, said that he would willingly give his time to the discussion of the Scott bill, and the Society accepted the offer. Dr. Scott, of Cleveland, the champion of the bill, then took the floor and explained what the bill was intended to do.

The Association spent the greater part of the afternoon discussing this Board of Health bill, the following gentlemen participating in the discussion: Professor E. H. Hyatt, of Delaware; Dr. Conklin, of Dayton; Dr. McCurdy, of Mahoning county; Dr. Reed, of Hamilton; Dr. Baldwin, of Columbus; Dr. Silver, of Sidney; Dr. Reed, of Mansfield; Dr. Beardsley, of Ottawa; Dr. Beckwith, of Cleveland; Dr. H. J. Sharpe, of London, and Dr. Franklin, of Chillicothe. All who spoke were strongly in favor of the tenor of the bill, and nothing more than suggestions as to how it might be improved were made. The question was raised whether it would not be better to create two boards, a board of examination and a board of health, instead of vesting the two powers in one body, as the bill contemplates. Dr. Baldwin thought one board would be sufficient. Too many boards was not a thing to be desired. Dr. Reed, of Mansfield, brought up the question of signing the certificates. He wished to know if the certificates of new-school men would only be signed by the new-school members of the board. There was considerable talk over this subject, and the matter was finally settled by Dr. Scott stating that it was the intention of the bill to require the signatures of the President and Secretary of the Board to the certificates.

The following committee was appointed to confer last evening in regard to the proposed amendments: Dr. Scott, Dr. W. J. Conklin, of Dayton; Dr. Beckwith, of Cleveland; Dr. Beardsley, of Ottawa; Dr. Baldwin, of Columbus; Dr. Beach, of London; Dr. Franklin, of Chillicothe; Dr. Jones, of London; and James Alison, of Cincinnati.

The regular programme was then taken up, and Dr. John McCurdy, of Youngstown, read a paper on "Sewerage and Water Supply of Youngstown." The Youngstown people use the Holly water system and main trunk sewers.

Mr. James Alison, a delegate from the Master Plumbers' Association of Cincinnati, read a voluntary paper on "The Plumber in his Relation to Sanitary Progress, as Viewed from the College of Practice." The paper was one of the best of the meeting.

Professor Hyatt's paper on "Drainage and Water Supply," and Professor Conklin's paper on "Sanitation in Schools," will be read this morning.

The convention, after hearing Mr. Alison's paper, adjourned until evening.

The evening session was held in the House of Representatives, commencing at eight o'clock. There were about one hundred persons present, among them being a number of members of the General Assembly.

Dr. Beach took occasion to return thanks for use of the hall, and called for the first paper of the evening, the opening by Dr. Starling Loving of discussion on the resolution, "That Legalized State Sanitation has Become a Necessity in the State of Ohio, for the General Protection of Its Citizens." He held that thousands of deaths occur annually in Ohio from preventible diseases, and referred to the Secretary of State's report to substantiate his statements. These deaths, he argued, were a direct loss of many millions of dollars to the State, and some legislative action should be taken to prevent them. He favored the appointment of a board of competent physicians to examine all medical college students; and also a State board to take charge of sanitary affairs.

Discussion of Dr. Loving's paper was opened, and Dr. John McCurdy, of Youngstown, and Dr. Reed, of Mansfield, took part.

Professor W. J. Conklin read a paper on the "Influence of Public Schools on Brain-building," which did not elicit discussion, from the fact that his statements coincided with the views of most members present.

The convention then adjourned till next morning.

At the morning session, the first order of business was the report of the committee on permanent organization, who reported the following:

President—Wm. Morrow Beach, M. D., London, O.

First Vice-President—Prof. Edward Orton, Columbus.

Second Vice-President—Professor Nelson, Delaware, O.

Third Vice-President—Hon. L. D. Brown, Hamilton, O.

Secretary—R. Harvey Reed, M. D., Mansfield, O.

Treasurer—Prof. John Simpson, Mansfield.

Executive Committee—Prof. Starling Loving, M. D., Columbus; H. D. Beckwith, M. D., Cleveland; W. J. Conklin, M. D., Dayton; E. H. Hyatt, M. D., Delaware.

Committee on Admissions—C. E. Beardsley, M. D., Ottawa; John McCurdy, M. D., Youngstown; and D. R. Silver, M. D., Sidney.

Committee on Publication—Drs. R. H. Reed, J. T. Baldwin, and Geo. A. Collamore.

Committee on Legislation—Drs. Wm. M. Beach (*ex officio*); X. C. Scott, Cleveland; C. S. Van Pelt, Toledo; T. C. Minor, Cincinnati; J. R. Flowers, Columbus: and C. M. Finch, Portsmouth.

The report was adopted.

The committee on constitution also made a report. They had prepared a constitution, which was read and adopted. The name of the organization is to be the Ohio State Sanitary Association, and the object of the Association is the general advancement of sanitary science, and the encouragement and promotion of local organizations throughout the State. The membership will be of two kinds, active and honorary. Active members shall form the body of the association, and shall be selected with special reference to their interest in sanitary studies and allied sciences. Honorary members shall be selected with reference to their general interest only in the work in hand. The association will meet at least once a year, in the month of February, and unless some other city is mentioned, will meet in Columbus.

Professor Curtis C. Howard, Professor of Chemistry in the Starling Medical College, read a paper on Impurities and Adulterations of Milk, the result of a series of examinations of the milk of the Columbus market. The professor thought there was little adulteration in the way people generally suppose. As for chalk, it is insoluble, and if mixed in clear water, it will be turbid for a time, but after standing a while all the chalk will settle and the water will be clear again; so, also, with brain matter, which some claim to have found in milk. It could not be put in without spoiling the whole of the milk. Water, however, may be added *ad infinitum*, and the quality of the milk will be in inverse proportion to the amount of water used. The professor exhibited a chart, which showed the results of his work.

The next paper was read by Dr. D. N. Kinsman, of Columbus, on "Some Reasons for the Establishment of a Board of Health." He called attention to the amount of disease arising out of ignorance of the causes of disease. Every section of country has its particular industry, and each industry has its own peculiar diseases. How to prevent them should be the work of the Board. He referred to the importance of obtaining accurate vitality statistics, and thought a good Board could do this work in a way not done as yet.

Dr. S. H. Smith, of Warren, who was on the programme for a paper on "Diphtheria," and Dr. J. W. Craig, of Mansfield, for a paper on "Tobacco from a Sanitary Point of View," were absent.

On motion, a paper on "The New Fashion," by Dr. C. A. Lee Reed, of Hamilton, was read. It referred to the absence of athletic sports among the people in general, and hailed what seems to be the approach of an era when the pell-mell, hurry-skurry of American business life, will be broken into a fair amount of refreshment and rest.

Dr. Lew Shusser, of Canton, read an essay on "Vital Statistics," a paper illustrating the great need of correct vitality statistics.

The remaining part of the morning session was taken by Dr. Beckwith, of Cleveland, who read a paper on "Sewers and Sewer Gas."

Adjourned till afternoon.

At the afternoon session, F. H. Darby, of Morrow, who was on the programme to read a paper, not being present, and sending his regrets along with his manuscript, the paper was read by the Secretary. The subject of the essay was "Blood Poisoning."

The only other paper on the programme, that of Prof. Edward Orton on "What shall be done with our Sewage and Garbage," was, at the urgent request of the writer, who had been prevented by illness from completing his paper, held over until next year. The professor made some very befitting general remarks, however, on the general subject of sanitation.

After a short and enthusiastic address by the President, Dr. Beach, the Association adjourned to meet in Columbus next February.

WM. MORROW BEACH, M. D., *Pres.*,
London, O.

R. HARVEY REED, M. D., *Sec'y.*,
Mansfield, O.

Correction.

Dr. Hiram Corson writes us: "On page 15 of the pamphlet containing 'Proceedings of the Alumni Society of the Medical Department of the University of Pennsylvania,' there is an error which I should like to have corrected through your REPORTER. The cost of Morris Plains Hospital is there given as $800,000, instead of $2,800,000, as it should be."

OBITUARY NOTICES.

D. L. ALLEN, M. D.,

Of Shenandoah, Iowa, died at Princeton, Kansas, of consumption, January 24, 1884, aged 36 years, 8 months, and 6 days.

Dr. Allen graduated in the class of '74 at Long Island Medical College. He commenced the practice of medicine the same year at Academia, Pa.; continued there till the fall of '81, when his rapidly failing health warned him to seek another climate, when he located in Iowa, and for a short time seemed to improve, till another attack of pneumonia left his lungs so much weakened that he never regained his strength. Change of climate and medicine made no change in him.

He was a physician of rare judgment, and a surgeon of accurate skill, a friend to the poor, and a Christian gentleman. He leaves a wife and one child.

DR. FRANK O. NAGLE.

Dr. Frank O. Nagle died at his residence, No. 2004 Germantown avenue, this city, February 1, in his twenty-seventh year, from a complication of diseases, resulting from typhoid fever. At the time of his death he was Professor of Therapeutics and Materia Medica in the Medico-Chirurgical College. Dr. Nagle graduated at the University

of Pennsylvania in 1879 with honor, receiving the Hodge gold medal, and afterwards was on the medical staff of the Philadelphia Hospital. He was a member of the County Medical Society and Philadelphia Chemical Association, and contributed several articles to this journal.

Items.

—Alcohol will be found effectual in removing ice from show-windows.

—Prof. Bartholow says that thymol is the best agent to destroy the odor of iodoform.

—Prof. Da Costa recommends chloral hydrate, in three-grain doses *ter die*, for infantile incontinence of urine.

—Professor Virchow has come out in favor of American pork. He declares that there is no danger in it, and that the shutting it out from Germany is a political, not a sanitary measure.

—Artificial oysters are supplied to the Paris markets, according to a *feuilletoniste* of the "Union Médicale." They are colored by means of copper, and are cemented to the interior of old shells.

—Fenoglio recommends the injection of ergot in cases of splenic enlargement due to malaria. He recommmends Bonjean's ergotin, dissolved in hot water, injected before the midday meal, while the stomach is empty.

—Dr. S. W. Gross recently performed the first stage of the operation of gastrostomy on a woman aged fifty-one, suffering from carcinoma of the œsophagus. On the eighth day the woman's temperature and pulse were normal, and the case was progressing most favorably.

—The Secretary of the Treasury has approved the recommendation of Surgeon General Hamilton, that an immediate inspection be made of the cities bordering on the Gulf of Mexico and the Caribbean Sea, having commerce with the United States, in order that their actual sanitary condition may be known in advance of the yellow fever season.

—The London *Saturday Review*, in an article on "the silly and ignorant agitation against vaccination," says, justly, that "people who do not choose to have vaccination performed on themselves or their children are as much guilty of spreading disease as if they turned poisonous matter into a reservoir of drinking water, and deserve no more quarter."

—A libel suit having been brought by a member of the medical faculty of the University of Michigan against a newspaper that had charged him with criminal relations with a lady who was his patient, $20,000 damages were awarded by the jury, and, the case having been appealed, the Supreme Court has affirmed the judgment.

QUERIES AND REPLIES.

Gynæcological Queries.

EDS. MED. AND SURG. REP.—

1. Will some reader kindly give me some hints for treatment of the following case: Multipara, aged twenty-six years, for some years past has had almost complete menstrual suppression. Periods occur but once or twice a year. Is subject to sick headache and backache; is anæmic, and has very little appetite; more or less leucorrhœa. Examination per speculum reveals a slightly enlarged uterus and cervix, also a slight degree of retroversion. The os presents the so-called ulcerations. She has been treated by all the physicians in her vicinity, and has taken every form of emmenagogue and tonic without the slightest benefit. Her only living child is five years old, and since his birth her trouble is greatly aggravated, though it has existed to some degree for eight years. Prior to that time, she menstruated normally; but on one occasion, in attempting to hold in a team of runaway horses, she so strained herself that a very alarming uterine hemorrhage resulted. From that event dates her trouble. Marriage and pregnancy produced no change.

If any of your readers can suggest a course of treatment liable to result in benefit, I shall be very grateful.

2. I would be glad to receive information as to some method of applying astringent remedies to the vagina without using injections. My patients so frequently complain of the latter mode of treatment as being so inconvenient, painful, or consuming so much time, that I am constrained to seek some form of medication more easily applied.

MEDICA.

Use of Alcohol.

EDS. MED. AND SURG. REP.—

I have received a number of answers to my *request* on "Alcohol, Its Use and Abuse as a Medicine," published in the MEDICAL AND SURGICAL REPORTER, issue of February 2, 1884, page 159. I would like to have a much larger expression of the views of the profession on this subject, and therefore ask *every one* who reads this to be kind enough to briefly state their views and send them to me at their earliest convenience. Don't wait for some one else, thinking your views are not wanted, but send me your views, as I am *very anxious* to have them. Fraternally,

JOHN B. CARRELL.

Fowler's Solution.

Query.—Does Fowler's solution of arsenic deteriorate by age? Does it ever become worthless by long keeping? If it loses its strength by age, what is the chemical process of its so doing? Yours truly, D. N. P.

Mangum, N. C.

We have referred this query to one of our ablest chemical pharmacists, who replies as follows:

"Fowler's solution, with ordinary care, cannot become worthless by long keeping, and it is a question whether the article deteriorates from any such cause. If, however, a change should take place, it would be owing to the alteration of the *arsenite* (so-called) into *arseniate of potassa*. The dose and therapeutic value of the latter would be *about* the same as the former. If any deposit should occur, it would be probably the coloring matter from the compound tincture of lavender contained in the preparation.

"In pharmaceutical preparations of this kind, it is not well, however, to keep them on hand too long.

"Injurious or not, the long keeping of them puts the dispenser, to say the least, in an uncomfortable position. I usually prepare Fowler's solution in about one-half pint quantities, which will be used in about three or four weeks. This insures a fresh preparation, and me more satisfaction, though I may know the preparation would be equally as good if a year or more old. I am yours,

"L. E. SAYRE, PH. D."

Dr. J. R. asks: Can a graduate of a standard medical college practice in the State of Illinois without an examination?

Ans.—Yes.